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CUSTOMERS PERCEPTION TOWARDS ONLINE SHOPPING AND OFFLINE SHOPPING IN KURLA TALUKA

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ABSTRACT

Today technology has brought tremendous changes in common man's life. One can't live a life without technology. It is inseparable part of common man. Shopping is a buying of goods or services by a buyer to fulfill his/her daily needs. Some people don't have time to go for offline shopping hence Researcher has taken the topic 'online shopping vs. offline shopping and customers perception for it'. This research paper will provide focus to understand Customers perception for online shopping and offline shopping. The researcher has taken 125 respondents of Kurla Taluka of Mumbai region. It has consisted with findings and suggestions.

Keywords: Online Shopping, Offline Shopping, Customers, Perception And Technology.

1. INTRODUCTION

Shopping is an activity in which a customer browses the available goods or services presented by one or more retailers with the intent to purchase a suitable selection of them. In some contexts it may be considered a leisure activity as well as an economic one. **Offline shopping** is a traditional way of purchasing services or products by directly visiting to the store/shop/ or vendor. An offline shopping is a traditional way of buying services or products. People prefer to shop from **online shopping** websites because of the convenience which it provides to them. The easy fetching of every products information and the most attractive shipping and money transaction method of them helps the online shoppers to shop from them by directly from the home. It depends upon a person which medium they follow for shopping. It's an era of technology so people want to take the advantage of that thing and prefer online shopping but still there are some persons who don't trust online sites and prefer offline shopping. This paper shows the Customer perception towards online and offline shopping and also find out those factors which influence the shopping medium of the consumer whether it is online or offline shopping.

2. REVIEW OF LITERATURE

It provides information of earlier research and other studies to the make objectives and various judgments. It is as follow:

Abid Hussain (2018) has stated in Online Shopper Behavior: Influences of Online Shopping Decision' that recent research has shown an interest in investigating consumer motivations that affect the online shopping behavior. It is yet to understand what factors influence online shopping decision process. The objective of this study is to provide an overview of online shopping decision process by comparing the offline and online decision making and identifying the factors that motivate online customers to decide or not to decide to buy online. It is found that marketing communication process differs between offline and online consumer decision. Managerial implications are developed for online stores to improve their website.

Ezgi Akar & V. Aslihan (2015) in his article titling "A review of literature on consumers' online purchase intentions" emphasized that nowadays, the rapid development of the Internet and its effect on daily life has introduced a new consumer profile which is referred to as the 'online consumer'. Such consumers are affected by different factors and they have different purchasing habits with respect to traditional consumers. The main goal of this paper is to depict the factors that have an impact on consumers' online purchase intentions through an in-depth analysis of the relevant literature. After an extensive literature review, 100 relevant articles are identified. The factors influencing consumers' online purchase intentions, which have been examined in these selected articles, are classified according to their similarities, and grouped under relevant categories. The study results reveal that while most of the studies focus on the impact of consumer characteristics, and merchant and product characteristics on online purchase intention, the impact of social media is generally underestimated in the literature. This can be attributed to the fact that this is a recently emerged research area. The originality of our paper stems from highlighting a future research agenda for consumers' online purchase intentions.

.Arora and Yadav (2012) in their study find that three factors are considered for checking the impact of Facebook on product purchase decision i.e. brand community engagement, information about the product and word of mouth. Consumer is mostly influenced by positive word of mouth rather than other factors.

Literature reviews are taken from earlier research like thesis, journal and other sources to frame the objectives and providing essential information for analytical part of the study.

3. OBJECTIVES OF THE REARCH PROBLEM:

It aims to analyze the research problem to reach on the solution. They are as follows:

1. To understand the customers perception for online and offline shopping in Kurla Taluka.
2. To study factors influencing the perception of customers towards online and offline shopping in Kurla Taluka.
3. To form conclusion based on methods and suggestions.

4. SIGNIFICANCE OF THE STUDY:

This study will beneficial to various stakeholders. They are as follows:

1) Customers: Customers will be beneficial by understanding pros and cons in online and offline shopping.
2) Students: Students will get an idea how does customers express their views for online and offline shopping and will use it as a part for careers.
3) Vendors: Vendors will get an idea trend of customers for shopping.
4) Researcher: Future researcher will get ample of information through it for their further study.

5. DATA ANALYSIS:

Researcher has taken 125 respondents randomly for his study in Kurla Taluka of Mumbai. Responses are obtained based on primary data and questionnaire. The analysis is done by using Average, S.D. and Chi-Square Method. It is done in following tables.

Table 1

Gender	No. of Respondents	Frequency (%)
Male	83	66.4
Female	42	33.6
Total	125	100
Age group (Years)		
20-29	21	16.8
30-39	28	22.4
40-49	34	27.2
50-59	26	20.8
60 & Above	16	12.8
Total	125	100
Occupation		
Student	19	15.2
Business	33	26.4
Service	47	37.6
Professional	26	20.8
Total	125	100
Income		
< 15k	18	14.4
15k-29k	24	19.2

30k-44k	27	21.6
45k-59k	31	24.8
60k &Above	25	20.0
Total	125	100

(Source: Primary Data/ MS Excel)

Table 2

Does online shopping is as convenient as traditional shopping?	No. of Respondents
Yes	69
No	56
Total	125

(Source: Primary Data/ MS Excel)

Table 3

Things you mostly prefer from Online shopping	Yes	No	Total
Clothing	56	69	125
Electronic items	71	54	125
Footwear	58	67	125
Others	76	49	125

(Source: Primary Data/ MS Excel)

Table 4

Selection of goods on internet is very broad as compared to the traditional market?	No. of Respondents
Yes	56
Sometime	22
Never	47
Total	125

(Source: Primary Data/ MS Excel)

6. FINDINGS OF THE STUDY

1. 66.4% respondents are male while 33.6% respondents are female.
2. Majority 70.4% respondents are in age group between 30 years to 60 years.
3. Majority 37.6% respondents are doing Service.
4. Majority 66.4% respondents are in income group between Rs.30k to Rs.60k & above.
5. Table 2 indicates that 69 respondents prefers online shopping is convenient while 56 respondents prefers traditional shopping.
6. 69 respondents prefer to buy cloth from traditional market. 71 respondents prefer to buy Electronic items from online shopping. 67 respondents prefer to buy. Footwear from traditional market while 76 respondents like to buy other products from online shopping.
7. 56 respondents thinks online shopping is broad area as compare to traditional market, 47 respondents thinks traditional market is broaden area whereas 22 respondents thinks to do both the shopping.
8. Most of respondents irrespective of gender, income group, age group and occupation like to buy major items online to save their time.

7. SUGGESTIONS

1. Traditional shopkeeper to provide more attention on e-commerce websites to widen their business.
2. Online shopkeeper provide more security and assurance to buyers.
3. Offline marketers should do categories of the business activities as per the needs of the buyers.

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CONSUME BEHAVIOUR TOWARD ONLINE SHOPPING – INDIAN PERSPECTIVE

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ABSTRACT

Customers demand for online shopping has increased tremendously and acquired important position in 21st century. Customers don't have sufficient time to do shopping physically due to their hectic schedule. So online shopping as won the important place in their life as a convenient weapon. Internet has created shopping place or online store like physical store where they can buy products and services, it is called as business to consumer online shopping. Ecommerce has touched the heart of customers and created place for online marketers. Goods are available in wide varieties in online. The present paper is based on customer's preferences for online shopping. The paper has encompassed the customer's perception and preferences towards online shopping. The research paper has mainly focused Mumbai city as the study region.

Keywords: Perception, Preference, Internet, E-Commerce and Mumbai City.

1. INTRODUCTION

It is the action or activity of buying goods or services over the Internet. Consumer preference is defined as the subjective tastes of individual consumers, measured by their satisfaction with those items after they've purchased them. This satisfaction is often referred to as utility. Customer preferences are expectations, likes, and dislikes, motivations and inclinations that drive customer purchasing decisions. They complement customer needs in explaining customer behavior. For example, a customer needs shoes and they'd prefer a particular style, brand and color. Online retailing is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. On-line shopping preferences differ with respect to different age groups. Customers get adequate information of the product from comments and reviews posted by existing buyers. These buyers are acting as referral to new customers. This paper has contained statistical tools applied and customer's opinion about online shopping in Mumbai suburban area.

2. REVIEW OF LITERATURE

The article and research reviews have added in the research article as core area of the study. This part provides exclusive information to

Kolko (2011) finds that cities that are farther away from other cities are more likely to make use of the internet; Forman, Goldfarb, and Greenstein (2005) find that rural areas are on the margin more likely to adopt participation technologies, as defined above, that aid communication across establishments; and Sinai and Waldfogel (2004) find that conditional on the amount of local content on the internet, people in smaller cities are more likely to connect to the internet than people in larger cities.

Mathwicketal., (2012) , "If online shopping meets this ideal by enabling the consumer to accomplish the shopping task he or she has set out to perform, then consumers will judge the Internet shopping performance positively."

Childers et al., (2013) found "enjoyment' to be a consistent and strong predictor of attitude towards online shopping. If consumers enjoy their online shopping experience, they have a more likely to adopt the Internet as a shopping medium.

Yaobin Lu (2017) focused on factors that influence users' intention to transfer their usage from the offline to the online channel that offer similar services. The study revealed that innovativeness in new technology and relative benefit had positive effects on users' intention to transfer usage. Moreover, the findings of the study also indicated that internet experience moderates the relationship between relative benefit and consumers' intention to transfer usage from offline to online services.

3. STATEMENT OF THE PROBLEM

The study is undertaken by considering several factors of online customers. It is highly difficult to evaluate the needs and requirement of customer preferences for online shopping. Hence, the researcher has undertaken the study problem.

4. SCOPE OF THE STUDY

The present research study attempted to examine the customer's preferences for online shopping. It is an attempt to understand the complex needs of customers in Mumbai City. It is confined to 175 customers in the study region.

5. OBJECTIVES OF THE STUDY

The objective of the study paper is to evaluate preference of customer for online shopping.

6. AREA OF THE STUDY

Research problem is studied in Mumbai City as operational area and data has collected from the respondents of this region.

7. METHODOLOGY

The data for this study is collected based on Primary and Secondary Sources. This collected data was presented in the following sections:

Primary Data: It is collected by framing questionnaire from online customers in Mumbai city. Questionnaire is consisting of age, gender, educational qualification and information about the preference of customers.

Secondary Data: Secondary was collected using journals, webliography, thesis, magazines etc.

SAMPLE DESIGN:

The present study is descriptive and methodical. It includes findings and fact and analysis of collected data and information. The researcher has collected taken **175** samples from the customers in Mumbai City. The data has collected by sending framed questionnaire in Mumbai city. The researcher has used convenient sampling technique for data analysis.

LIMITATONS OF THE STUDY: The study has certain limitations:

1) The study area selected for the study is Mumbai city.
2) The study has covered views of online customers.
3) Findings of the study may not hold true for the future.

8. RESULTS AND DISCUSSION:

Garret's ranking technique is used to analyses the Preference of the consumers for purchasing online products. It is explained in the following table about the preference of customers for purchase of online products.

CONSUMER PREFERENCE WISE DISTRIBUTION OF RESPONDENTS

Shopping through online becomes speedy and advantageous. But it is not useful for all products. Each customer has their own limitations, comfortability and level of satisfaction. Table 1 given below will explain the preference of customer for online shopping. It is observed and evaluated with the aid of Garret's Ranking Technique.

Sr. No.	Preference	GARRET'S MEAN SCORE	RANK
1	FAST FOOD	70.88	I
2	MOBILE PHONES	70	II
3	APPARELS	66.21	III
4	COMPUTER HARDWARE, SOFTWARE, AND ACCESSORIES	63.32	IV
5	BOOKS	58	V
6	CONSUMER ELECTRONICS	55.41	VI
7	FOOTWEAR	51.02	VII
8	TOYS AND GAMES	47.77	VIII
9	SPORTS GOOD AND FITNESS EQUIPMENT	43.67	IX
10	HEALTH & BEAUTY SUPPLEMENTS	41.11	X
11	FASHION ACCESSORIES	38.07	XI

12	KITCHEN WARE AND HOUSEHOLD APPLIANCES	36.23	XII
13	HOME DECOR ITEMS	32.01	XIII
14	JEWELLERY	31	XIV

(Source: Primary Data)

The above table provides the information about customer's behavior for products while online shopping. FAST FOOD has been ranked 'I' by the respondents with mean score of 70.88, MOBILE PHONES has been ranked 'II' by the respondents with mean score of 70, APPARELS has been ranked 'III' by the respondents with mean score of 66.21,

COMPUTER HARDWARE, SOFTWARE, AND ACCESSORIES has been ranked 'IV' by the respondents with mean score of 63.32, BOOKS has been ranked 'V' by the respondents with mean score of 58, CONSUMER ELECTRONICS has been ranked 'VI' by the respondents with mean score of 55.41, FOOTWEAR has been ranked 'VII' by the respondents with mean score of 51.02, TOYS AND GAMES has been ranked 'VIII' by the respondents with mean score of 47.77, SPORTS GOOD AND FITNESS EQUIPMENT has been ranked 'IX' by the respondents with mean score of 43.67, HEALTH & BEAUTY SUPPLEMENTS has been ranked 'X' by the respondents with mean score of 41.11, FASHION ACCESSORIES has been ranked 'XI' by the respondents with mean score of 38.07, KITCHEN WARE AND HOUSEHOLD APPLIANCES has been ranked 'XII' by the respondents with mean score of 36.23 and Least preferences were given to HOME DECOR ITEMS has been ranked 'XIII' by the respondents with mean score of 32.01 and JEWELLERY has been ranked 'XIV' by the respondents with mean score of 31. Most of the respondents are interested in ordering Fast Food, Mobiles, and Apparels and so on.

9. SUGGESTIONS

1) Vendor Companies should provide attention on designing websites as the customers are attracted largely due to quality and contents of the website.
2) Vendor companies should focus on priority and choice of the products on online shopping.
3) Customers should do the comparison between the price of offline and online for some products.

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A STUDY ON AWARENESS OF YOGA AMONG RURAL STUDENTS AND IMPACT OF PRANAYAMA ON CARDIO-RESPIRATORY FUNCTION OF RURAL STUDENTS

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ABSTRACT
The students living in rural areas are mostly suffering from malnutrition and they also have poor health due to the lack of knowledge, insufficient facilities, bad habits or improper lifestyle, poor social development, and poverty. the diet taken by these communities is also nutritionally deficient. Therefore, it is necessary that for all-round development of Rural students –the basic components of health and fitness be stressed upon. As yoga supports for improving health-related fitness of civilized children, its similar role for rural children is assumed to be possible. Cardiorespiratory fitness refers to the fitness of the heart, lungs, and blood vessels. The poor state of cardiorespiratory fitness directly increases the risk of one's stamina and makes the initiation of heart disease, diabetes, and cancer in childhood. this paper belongs to health benefits through yoga for rural children.

Keywords: rural students, yoga, health.

INTRODUCTION
Yoga is unchanged and permanent. It's an ancient science of well being. It's appropriate for everybody to practice at any age. The term Yoga springs from a Sanskrit word YUJ means to join, to bind, union or communion. Generally yoking of all the powers of body, mind, and soul to God. Yoga conjointly refers to the discipline of the intellect, the mind, the emotions, and therefore the can. Thus, in a broad sense, yoga signifies nonsecular discipline. Yogic Pranayama has attained tremendous significance in the new age because Pranayam improves breathing. This is very much benefiting long life as well as for good health. Briefly, it can be said that Pranayama systematically means control of breath. It has been observed that a "student who wants to learn Pranayama and continue practicing it needs to have a clear idea regarding its scope and limits. As a part of yoga, pranayama should normally be practiced along with other parts, such as Asanas and meditation. This gives better results especially in the

DEFINITIONS
Cardio-Respiratory Function
Cardio-Respiratory Function is the group of functions that starts with inhalation of Oxygen through the upper respiratory tract and continues throughout life by supplying it with all nutritive products to the microcellular level through blood circulation.

Pranayama
The word Pranayama consists of two words 'Prana' and 'Ayama' here prana means breath and 'Ayama' refers to stretch, extension, expansion, length of breadth, regulation, prolongation, etc. Pranayama is head and recondite piece of yoga that oversees control of 'prana', or basic life essentialness, through the guideline of breath with help of breathing exercises. Pranayama is made out of two words. 'Prana' breaks down to 'central life power moves' and 'Ayama' propose, past what many would think about conceivable and make. Thusly 'pranayama' gathers to widen and beat one's standard confinements. It likewise decides pranic cutoff or length. Pranayama is one of the ancient Indian methods of human exercise development for increasing the efficiency of respiratory and circulatory systems of the human body. Patanjali in his "Yog-Sutra" has focused on the importance of Pranayama in the physical exercise to maintain the body temperature in a balanced manner.

Breath control expects to change the term of inside breath, exhalation, and upkeep

➢ the criticalness of inward breath and

➢ power of inward breath and exhalation. Pranayama exercises can be sorted out into four basic classes

➢ Honing

➢Quieting

➢ Developing

➢ Vitalizing

All pranayama rehearses have an animating effect, vitalizing structures have a warming effect, steadying techniques have a cooling impact and altering frameworks have a changing effect on prana stream and physical body. Each such framework on an exceptionally fundamental level refines, fits decongest, charge repeat of the pranic stream, and raises genuine dispersal to parts of the body by methodologies for the immense arrangement of nadis.

Breath control means to alter

• The duration of inhalation, exhalation, and retention.

• The depth of inhalation.

• The force of inhalation and exhalation.

Asanas

The third limb of Yoga is asana or posture. Asana brings steadiness, health, and lightness of limb. A steady and pleasant posture produces mental equilibrium and prevents fickleness of mind. Asanas are not merely gymnastic exercises. They are postures. To perform them, one needs a clean airy place, a blanket, and determination, while for other systems of physical training, one needs a large playing field and costly equipment. Asanas can be done alone, as the limbs of the body provide the necessary weights and counterweights. By practicing them, one develops agility, balance, endurance and great vitality Asanas keep the body healthy and balanced and facilitate the body in maintaining harmony with nature. a daily apply of asanas allows someone to become freed from body consciousness. Asanas involve presumptuous varied postures to consider total body development.

Health benefit of Asanas

- Improves muscle tone
- Improves flexibility
- Improves strength
- Improves stamina
- Improves concentration and creativity blood circulation

CONCLUSION

Yoga has become a new dimension of human health and this ancient Indian practice has become popular in the new world. The ancient science of yoga is finding wide acceptance the world over as a means of maintaining and improving physical and mental health starting any pranayama exercises, it is imperative to know and practice yogic breathing and a few exercises for developing lung and breath capacity. Therefore, it is necessary to improve cardiorespiratory fitness in reducing the risk of various diseases. Although regular participation in various games and sports and physical activities may help rural students to enhance such fitness of heart and lungs, Pranayama helped to reduce the Respiratory rate and pulse rate of the rural students, whereas improved vital capacity, peak exploratory flow rate and chest expansion ability irrespective.

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AAROGYA SETU APP – POLICY ANALYSIS & FUTURE OF CONTACT TRACING IN INDIA

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ABSTRACT

On 2 April 2020, India launched Aarogya Setu Mobile App to help increase efforts to reduce the spread of COVID19, with the aim of enabling Bluetooth-based contact tracing, mapping of likely hotspots and dissemination of relevant information on COVID19. The App has more than 114 million users as of 26 May.2020, more than any other Contact Tracing App in the world. The App is available in 12 languages as well as on Android, iOS and KaiOS platforms.

In order to break the chain of infection, it is important to provide medical assistance and advice to people who may be at risk, especially asymptomatic people, i.e. people who may have contracted the infection that have not yet shown symptoms. Through the app when we take the self-assessment test, by correlating the symptoms that we report along with our location information, the Government of India will have the ability to identify hotspots where disease may be spreading , early enough, so that necessary interventions can be done to control and mitigate the spread of COVID-19.

The Government made it mandatory for all public and private sector office employees to download the Aarogya Setu app. Apart from this, all citizens living in an identified COVID-19 containment zone are also required to have the Aarogya Setu app installed on their Smartphone. The government directive also stated that it will be the responsibility of the heads of the respective organisations, in both private and public offices, to ensure 100 percent coverage of the Aarogya Setu app among employees. So it is very clear that in the process of curbing Covid-19 pandemic in India with the help of technology Aarogya Setu mobile was created.

The very nature of the app was to physically track each individual user, their movement and location but came in contradiction with IT Acts and overtook the Right to Privacy. Any app that tracks who you have been in contact with and your specific location with pin point accuracy at all times is a clear violation of our privacy rights. The somewhat vague and lose nature of the protocol is also a concern. Considering India's horrible past with protecting privacy of its people the inefficient IT Act and the still hypothetical privacy bill didn't provide much hope. One of the main concerns is sharing of this private data with third-party entities.

The App helped identify about 500,000 Bluetooth contacts and helped 900,000 users with advices for Quarantine, caution or testing. Among those recommended for COVID19 testing, it was found that almost 24 percent of them were found to be positive for COVID-19. Comparing this to the average positive result of COVID-19 we find that a total of 145380 COVID-19 positive were found from a total of 3126119 experiments carried out by 26 May 2020. The contact tracing did help but for this our privacy rights were compromised under Disaster Management Act 2005.

Later on after 55 days of launching the app, the open source conversion of the Aarogya Setu App became one of the most required decisions taken by the Government of India. This made the contact tracing process of the app transparent and helped to rebuild and restore the trust of common individual into the constitutional machinery that has been put in place to safeguard his/her interests and rights. Moreover the Aarogya Setu Data Access and Knowledge Sharing Protocol, 2020 also specified that the app collected data will at most be used for six months. We hope that next time whenever we install or select any government driven application, there is no dark areas in its policy and implementation and we do it with trust and confidence.

Keywords: Aarogya Setu App, Contact Tracing in India, Data Privacy, Privacy Laws, Covid-19 solution

1. INTRODUCTION

On 2 April 2020, India launched Aarogya Setu Mobile App to help increase efforts to reduce the spread of COVID19, with the aim of enabling Bluetooth-based contact tracing, mapping of likely hotspots and dissemination of relevant information on COVID19. The App has more than 114 million users as of 26 May.2020, more than any other Contact Tracing App in the world. The App is available in 12 languages as well as on Android, iOS and KaiOS platforms. Citizens across the country use Aarogya Setu to protect themselves, their loved ones, and the nation. Many youngsters call Aarogya Setu their bodyguard.

What is Aarogya Setu?

Aarogya Setu is a digital service, primarily a mobile application, developed by the Government of India and intended to protect citizens during COVID-19. It is designed to facilitate the initiatives of the Government of India by informing the people of their potential risk of COVID-19 infection and the best practices to be followed to stay healthy, as well as providing them relevant and substantiated medical advisories, as per MoHFW and ICMR guidelines, pertaining to the COVID-19 pandemic.

Why should it be used?

Aarogya Setu is our common bridge to prevent the spread of the coronavirus pandemic in India. Aarogya Setu uses contact tracing to record details of all the people we may have come in contact with as we go about your normal activities. If any one of our contacts tests positive for COVID-19, we can be informed and proactive medical facilities can be arranged for us.

In order to break the chain of infection, it is important to provide medical assistance and advice to people who may be at risk, especially asymptomatic people, i.e. people who may have contracted the infection but have not yet shown symptoms.

According to the Govt. of India, Aarogya Setu enabled early identification and prevention of potential risk of infection through contact tracing, and thus acts as a shield for us, our family and our community. In addition, when we take the self-assessment test on the Aarogya Setu app, by correlating the symptoms that we report along with our location information, the Government of India will have the ability to identify hotspots where disease may be spreading , early enough, so that necessary interventions can be done to control and mitigate the spread of COVID-19.

The guidelines by the Government include a directive, which makes it mandatory for all public and private sector office employees to download the Aarogya Setu app. Apart from this, all citizens living in an identified COVID-19 containment zone will also be required to have the Aarogya Setu app installed on their smartphone. The new directive also stated that it will be the responsibility of the heads of the respective organisations, in both private and public offices, to ensure 100 percent coverage of the Aarogya Setu app among employees.

So it is very clear that in the process of curbing Covid-19 pandemic in India with the help of technology Aarogya Setu mobile was created. The very nature of the device was to physically track each individual user, their movement and location. This came in contradiction with IT Acts established under the Indian constitution and overtook the Right to Privacy substantiated as a fundamental right by a nine-judge bench of the Supreme Court headed by Chief Justice JS Khehar, ruled on August 24, 2017, saying that the Right to Privacy is a fundamental right for Indian citizens under the Constitution of India (mostly under Article 21 and additionally under Part III rights). Thus validating that no legislation passed by the government can unduly violate it.

2. OBJECTIVE AND SCOPE

This Article explains how Aarogya Setu was introduced during Covid-19 pandemic its uses and policies that mentions storing and protecting personal user data for Covid-19 protection but it has been heavily criticized and has been referred as a surveillance tool by the Govt. of India. The article explains Aarogya setu's transformation from closed to open source and legalities it covers in reference to Right to privacy and Disaster Management Act 2005.

3. METHODOLOGY

Explorative

4. REVIEW OF LITERATURE

a. IT Act-2008

b. Disaster Management Act -2005

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Vol.40-Issue.89-March, 2020

c. The Aarogya Setu Data Access and Knowledge Sharing Protocol, 2020

d. Justice K. S. Puttaswamy v. Union of India – Right To Privacy

5. PRIVACY POLICY –AAROGYA SETU APP (2nd April – 26th May, 2020)

When we use Aarogya Setu (App), some personal information is collected from and about us. They mention that they are committed to protecting the security of this information and safeguarding our privacy. This privacy policy sets out the details of the personal information collected, the manner in which its collected, by whom as well as the purposes for which it is used. At registration we also accepted the terms of this Privacy Policy and our use of the App signifies our continued acceptance of its policy thereof. They have explicitly mentioned that their Privacy Policy may be revised from time to time and we will be notified of all such changes. In order to use the App, we will be required to consent to the terms of the Privacy Policy as revised from time to time.

1. Information Collected And Manner Of Collection

a. When we register on the App, the following information is collected from us and stored securely on a server operated and managed by the Government of India (Server) –

(i) name

(ii) phone number

(iii) age

(iv) sex

(v) profession

(vi) countries visited in the last 30 days.

This information will be stored on the Server and a unique digital id (DiD) will be pushed to our App. The DiD will thereafter be used to identify us in all subsequent App related transactions and will be associated with any data or information uploaded from the App to the Server. At registration, our location details are also captured and uploaded to the Server.

b. When two registered users come within Bluetooth range of each other, their Apps will automatically exchange DiDs and record the time and GPS location at which the contact took place. The information that is collected from our App will be securely stored on the mobile device of the other registered user and will not be accessible by such other user. In the event such other registered user tests positive for COVID-19, this information will be securely uploaded from his/her mobile device and stored on the Server.

c. Each time we complete a self-assessment test the App will collect our location data and upload it along with the results of our self-assessment and our DiD to the Server.

d. The App continuously collects our location data and stores securely on our mobile device, a record of all the places we have been at 15 minute intervals. This information will only be uploaded to the Server along with our DiD in (i) if we test positive for COVID-19; and/or (ii) if our self-declared symptoms indicate that we are likely to be infected with COVID-19; and/or (iii) if the result of our self-assessment test is either YELLOW or ORANGE. For the avoidance of doubt, this information will NOT be uploaded to the Server if we are not unwell of if the result of our self-assessment test is GREEN.

e. If we have tested positive for COVID-19 or if there is a high likelihood of us being infected, we have the option to press the Report button on the App which will allow us to either request a test or report that we have tested positive for COVID-19. When we press the Report button the data collected under Clauses 1(b) and (d) and securely stored on our device will be uploaded to the Server with our consent.

2. Use of Information

a. The personal information collected from us at the time of registration under Clause 1(a) above, will be stored on the Server and only be used by the Government of India in anonymized, aggregated datasets for the purpose of generating reports, heat maps and other statistical visualisations for the purpose of the management of COVID-19 in the country or to provide us general notifications pertaining to COVID-19 as may be required. Our DiD will only be co-related with our personal information in order to communicate to us the probability that we have been infected with COVID-19 and/or to provide persons carrying out medical and administrative interventions necessary in relation to COVID-19, the information they might need about us in order to carry out such interventions.

b. The information collected from any other user's mobile device and uploaded and stored on the Server in accordance with Clause 1(b) will be used to calculate our probability of having been infected with COVID-19.

c. The information collected under Clause 1(c) will be used by the Government of India to evaluate, based on the self-assessment tests and the GPS locations from where they are being uploaded, whether a disease cluster is developing at any geographic location.

d. The information collected under Clause 1(d) and securely uploaded and stored on the Server will, in the event we have tested positive for COVID-19, be used to map the places we visited over the past 30 days in order to identify the locations that need to be sanitised and where people need to be more deeply tested and identify emerging areas where infection outbreaks are likely to occur. Where, in order to more accurately map the places we visited and/or the persons who need to be deeply tested, our personal information is required, the DiD associated with the information collected under Clause 1(d) will be co-related with our personal information collected under Clause 1(a).

e. The information securely uploaded and stored on the Server under Clause 1(e) will be used to calculate the probability of those who have come in contact with us being infected with COVID-19. f. The information collected under Clause 1 will not be used for any purpose other than those mentioned in this Clause 2.

3. Retention

a. All personal information collected from us under Clause 1(a) at the time of registration will be retained for as long as our account remains in existence and if any medical or administrative interventions have been commenced under Clause 2, subject to Clause 3(b) below, for such period thereafter as is required for such interventions to be completed.

b. All personal information collected under Clauses 1(b), 1(c), 1(d) and 1(e) will be retained on the mobile device for a period of 30 days from the date of collection after which, if it has not already been uploaded to the Server, will be purged from the App. All information collected under Clauses 1(b), 1(c), 1(d) and 1(e) and uploaded to the Server will, to the extent that such information relates to people who have not tested positive for COVID-19, will be purged from the Server 45 days after being uploaded. All information collected under Clauses 1(b), 1(c), 1(d) and 1(e) of persons who have tested positive for COVID-19 will be purged from the Server 60 days after such persons have been declared cured of COVID-19. **c.** Nothing set out herein shall apply to the anonymized, aggregated datasets generated by the personal data of registered users of the App or any reports, heat maps or other visualization created using such datasets. Nothing set out herein shall apply to medical reports, diagnoses or other medical information generated by medical professionals in the course of treatment.

4. Rights

a. As a registered user, we have the right to access our profile at any time to add, remove or modify any registration information that we have supplied.

b. We cannot manage the communications that we receive from us or how we receive them. If we no longer wish to receive communications from them, we may cancel our registration. If we cancel our registration, all the information we had provided to us will be deleted after the expiry of 30 days from the date of such cancellation.

5. Data Security

The App is equipped with standard security features to protect the confidentiality and security of our information. Data is encrypted in transit as well as at rest. Personal information provided at the time of registration is encrypted before being uploaded to the cloud where it is stored in a secure encrypted server. Personal information that is stored in the Apps of other registered users that we come in contact with is securely encrypted and are incapable of being accessed by such user.

6. Disclosures And Transfer
Save as otherwise set out in Clause 2 with respect to information provided to persons carrying out medical and administrative interventions necessary in relation to COVID19, no personal information collected by the App will disclosed or transferred to any third party.

6. THE AAROGYA SETU DATA ACCESS AND KNOWLEDGE SHARING PROTOCOL, 2020
The government of India through its ministry of Electronics and Information technology on 11th May.2020 notified The Aarogya Setu Data Access and Knowledge Sharing Protocol, 2020. Under the purview of Disaster Management Act,2005 it constituted Empowered Groups which will identify problem areas and provide effective solutions, delineate policy, formulate plans, strategise operations and take all necessary steps for effective and time bound implementation of these plans/policies/strategies/decisions in relation to the Covid-19 pandemic and functioning of Aarogya Setu mobile application and data management and for effective operation to detect and mitigate spread of Covid-19. Also in order to ensure secure collection of data by Aarogya Setu mobile application, protection of personal data of individuals and the efficient use and sharing of personal or non-personal data for mitigation and redressal of Covid-19 The Aarogya Setu Data Access and Knowledge Sharing Protocol, 2020 has been formed.

1. Rationale for this Protocol
1. Owing to the COVID-19 pandemic, guidelines have been issued by the Ministry of Home Affairs (vide Orders dated 24.03.2020, 25.03.2020, 28.03.2020, 1.04.2020, 2.04.2020, 14.04.2020, 16.04.2020, 1.05.2020) on the measures to be taken by the Central Government as well as the State/Union Territory Governments. Various advisories and statements have been issued by the Ministry of Health and Family Welfare, Government of India and other Ministries of the Government of India and State/ Union Territory Governments on precautionary measures such as social distancing and treatment of individuals who are affected or at-risk. In order to ensure their effective implementation, there is a need to ensure efficient data and information sharing among the different Departments and Ministries of the Government of India as well as those in the State/Union Territory Governments.

2. At present, the Government of India and State/Union Territory Governments are tasked with formulating appropriate health responses to not only contain the epidemic but also protect the health and safety of the community at large. Here, appropriate health responses include prevention and management of the COVID-19 pandemic, syndromic mapping, contact tracing, communication to an affected or at-risk individual's family and acquaintances, performance of statistical analysis, medical research, formulation of treatment plans or other medical and public health responses related to the redressal and management of the COVID-19 pandemic.

3. In order to formulate appropriate health responses for addressing the COVID-19 pandemic, data pertaining to individuals is urgently required. Here individuals mean persons who are infected, at high risk of being infected or who have come in contact with infected individuals. This data includes demographic data, contact data, self assessment data and location data (collectively called 'response data' in this document). Here, demographic data means the name, mobile number, age, gender, profession and travel history of an individual. Contact data means data about any other individual that a given individual has come in close proximity with, including the duration of the contact, the proximate distance between the individuals and the geographical location at which the contact occurred. Self assessment data means the responses provided by that individual to the self assessment test administered within the Aarogya Setu mobile application. Location data means data about the geographical position of an individual in latitude and longitude.

4. Implementation of the Protocol:
Keeping in view of the above, the Ministry of Electronics and Information Technology, Government of India ("MeitY") is designated as the agency responsible for the implementation of this Protocol and its developer, the National Informatics Centre shall, under this Protocol be responsible for collection, processing and managing response data collected by the Aarogya Setu mobile application. Any reference to MeitY under this Protocol is a reference to its supervisory role in relation to the Aarogya Setu mobile application and its developer, the National Informatics Centre (NIC) and not in any other

capacity. For the purpose of this Protocol, MeitY shall act under the overall direction of the Empowered Group 9 on Technology and Data Management.

5. Principles For Collection And Processing Of Response Data:
a. Any response data and the purpose for which it is collected by NIC shall be clearly specified in the Privacy Policy of the Aarogya Setu mobile application. b. NIC shall collect only such response data as is necessary and proportionate to formulate or implement appropriate health responses. Further, such data shall be used strictly for the purpose of formulating or implementing appropriate health responses and constantly improving such responses. c. NIC shall process any data collected by it in a fair, transparent and non-discriminatory manner. d. Contact and location data shall by default, remain on the device on which the Aarogya Setu mobile application has been installed after such data has been collected. It may be uploaded to the server only for the purpose of formulating or implementing appropriate health responses. e. Contact, location and self assessment data of an individual that has been collected by NIC shall not be retained beyond the period necessary to satisfy the purpose for which it is obtained which, unless a specific recommendation to this effect is made in the review under Para 10 of this Protocol, shall not ordinarily extend beyond 180 days from the date on which it is collected, after which such data shall be permanently deleted. Demographic data of an individual that has been collected by NIC shall be retained for as long as this Protocol remains in force or if the individual requests that it be deleted, for a maximum of 30 days from such request, whichever is earlier. f. The response data shall be securely stored by NIC and shall only be shared in accordance with this Protocol.

6. Principles for Sharing Of Response Data:
The response data may be shared by NIC in the following manner:

a. Response data containing personal data may be shared with the Ministry of Health and Family Welfare, Government of India, Departments of Health of the State/Union Territory Governments/ local governments, NDMA, SDMAs, such other Ministries and Departments of the Government of India and State Governments and other public health institutions of the Government of India, State Governments and local governments, where such sharing is strictly necessary to directly formulate or implement an appropriate health response.

b. Response data in de-identified form may be shared with such Ministries or Departments of the Government of India or the State/Union Territory Governments, local governments, NDMA, SDMAs and such other public health institutions of the Government of India or State Governments or local governments with whom such sharing is necessary to assist in the formulation or implementation of a critical health response. Here, de-identified form means data which has been stripped of personally identifiable data to prevent the individual from being personally identified through such data and assigned a randomly generated ID.

c. NIC shall, to the extent reasonable, document the sharing of any data and maintain a list of the agencies with whom such data has been shared. Such documentation shall include the time at which such data sharing was initiated, the persons or agencies who are being provided access to such data, the categories of data that are being shared and the purpose for which such data is being shared.

7. OBLIGATIONS OF ENTITIES WITH WHOM RESPONSE DATA IS SHARED:
a. An entity with whom response data is shared under this Protocol shall have the following obligations: a. Any entity with whom response data has been shared under Para 6 of this Protocol shall use such data strictly for the purpose for which it is shared. Such Ministry, Department of the Government, NDMA, SDMAs or public health institution shall process response data in a fair, transparent and non-discriminatory manner. The data accessed and used by such entities should not be retained beyond the period necessary to satisfy the purpose for which it is shared. In any circumstance, such data shall not ordinarily be retained beyond 180 days from the date on which it was accessed, after which such data shall be permanently deleted. Any Ministry, Department of the Government, NDMA, SDMAs or public health institution shall also implement reasonable security practices and procedures as prescribed under any law for the time being in force.

b. Any response data accessed under para 7(a) shall ordinarily not be onward shared with any third party. However, response data may be shared with such third parties only if it is strictly necessary to directly formulate or implement appropriate health responses. The Ministry or Department of the Government of India or State/ Union Territory Government/ local government, NDMA, SDMAs or public health institution of the Government of India/ State Governments/ local governments referred to in Para 6 that is sharing such information shall remain responsible for adherence to this Protocol by any other entity with which it shares information. Any third party with whom data is onward shared under this para shall be subject to the same obligations as under para 7(a) of this Protocol. In addition they shall not re-use the data for any other purpose or disclose the data to any other entity and remain subject to audit and review of their data usage by the Central Government.

8. PRINCIPLES FOR SHARING OF RESPONSE DATA FOR RESEARCH PURPOSES

Response data may be made available for research purposes by NIC in the following manner: **a.** Hard anonymisation refers to a series of technical processes which ensure that any individual is incapable of being identified from the response data through any means reasonably likely to be used to identify such individual. This anonymisation shall be done in accordance with anonymisation protocols that are to be developed, reviewed and updated on a periodic basis by an expert committee appointed by the Principal Scientific Advisor to the Government of India. Such review shall have regard to the nature and sensitivity of the data being processed, the robustness of the anonymisation protocol and advances in technology.

b. Response data which has undergone hard anonymisation, as under para 8(a), may be made available to Indian universities and research institutions / research entities registered in India. **c.** Any university or research institution / entity seeking to access response data under para 8(b) shall make a request for such data to the expert committee referred above at para 8(a), who may approve of such request and provide access to this data only if it is of the view that such access is sought for the purposes of statistical, epidemiological, scientific or any other form of academic research, on such terms as may be stipulated by the expert committee in this behalf.

d. Any university or research institution/ entity which accesses anonymised response data under Para 8(b) shall not reverse anonymise such data or re-identify individuals in any manner. If any person knowingly or unknowingly, takes any action which has the effect of such data no longer remaining anonymised, any rights granted to them under this Protocol shall stand terminated, and they shall be liable for penalties under applicable laws for the time being in force.

e. Any university or research institution/ entity which accesses anonymised response data under this Para may share such anonymised response data with other Indian universities or research institutions/ research entities registered in India only if such sharing is in furtherance of the same purpose for which it has sought approval to access such data from the expert committee. Any such third party with whom data is shared under this Para shall be subject to the same obligations and penalties under this Protocol as the university/ research institution/ entity which has shared the data with it. Any such sharing must be pursuant to a contract between the two entities, which shall state the nature of data shared, the purpose of such sharing, the duration of such sharing and other relevant details as may be specified by the expert committee. Such contracts, intimation of the fact of sharing and other relevant documentation as may be specified by the expert committee shall be submitted by the approved university/ research institution/ entity to the expert committee for review and compliance.

f. Any university/ research institution/ entity with whom hard anonymised data has been shared under Para 8(a) or Para 8(e) shall remain subject to audit and review by the Central Government. Further, if the Expert Committee finds any non-compliance with this protocol by such university/ research institution/ entity, it can terminate any rights granted to them under this Protocol at any time.

9. Violations

Any violation of these directions may lead to penalties as per section 51 to 60 of the Disaster Management Act, 2005 and other legal provisions as may be applicable.

10. Sunset Clause

The Empowered Group shall review this Protocol after a period of 6 months from the date of this notification or may do so, at such earlier time as it deems fit. Unless specifically extended by the

Empowered Group on account of the continuation of the COVID-19 pandemic in India, this Protocol shall be in force for 6 months from the date on which it is issued.

9. Policy Explanation in General

According to mentioned protocol, the response data containing personal data may be shared by the National Informatics Centre (NIC) – with The Ministry or Department of the Government of India or State/ Union Territory Government/ local government, NDMA, SDMAs or public health institution of the other Ministries and Departments of the Government of India and State Governments and other public health institutions of the Government of India, State Governments and local governments, where such sharing is strictly necessary to directly formulate or implement an appropriate health response. Response data may also be shared with Indian universities or research institutions and research entities registered in India for research purposes.

The Protocol states that response data in de-identified form may be shared with such Ministries or Departments of Government of India or Government of the State / Union Territory Governments, local governments, NDMAs, SDMAs and other public health institutions of the Government of India or Governments of the State.

De-identified form means data that has been stripped of personally identifiable data to prevent the individual from being directly identified through such data and they are assigned a randomly generated ID for maintaining their anonymity.

7. Criticisms

a. Threat to Right to Privacy: Aarogya Setu stores location data and requires constant access to the Bluetooth phone, which, experts say, makes it invasive from a security and privacy point of view.

b. Limited liability: The liability clause exempts the Government from liability in any event of “any unauthorized access to the user’s information or modification thereof,” simply there is no liability for the Government even if the personal information of users is leaked.

c. Transparency : Other contract tracing app from countries such as UK’s Covid-19 tracing app, The Aarogya Setu App was not open source, which meant that it cannot be audited for security flaws by independent coders and researchers

d. Prejudice: There were various reports on the social media and lots of fake news that questioned the very nature of Aarogya Setu App as tool for surveillance and data collection for indirect National Population Register (NPR) and NCR as well.

8. Open Source and its future

As on 26th May 2020, Ministry of Electronics & Information Technology declared Aarogya Setu as an Open Source project. The ministry notification said that the key pillars of Aarogya Setu have been transparency, privacy and security and in line with India’s policy on Open Source Software, the source code of Aarogya Setu has been made open source.

The source code for the Android version of the application has been made available for review and collaboration at github.

The iOS version of the application will be released as open source within the next two weeks and the server code will be released subsequently. Almost 98% of Aarogya Setu Users are on Android platform.

1. Bug Bounty Programme

While making the code Open Source, Government of India also seeks the developer community to help identify any vulnerabilities or code improvement in order to make Aarogya Setu more robust and secure. To fulfil this objective, Government has also launched a Bug Bounty Programme with a goal to partner with security researchers and Indian developer community to test the security effectiveness of Aargoya Setu and also to improve or enhance its security and build user’s trust by making the app processes transparent.

This massive Bug Bounty Programme is open till 26th June,2020 and promises prize money ranging from one lakh to thirty lakhs for identifying and rectifying Security Vulnerability in the app.

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9. APP STATISTICS AND SUCCESS

The App may have the most impact and reach compared to all other COVID-19 contact tracing and self-assessment tools combined globally, while pioneering new data led resolution to one of the most impactful calamity of the modern era. Out of 114 million registered users, two-thirds have taken the self-assessment test to evaluate their risk of COVID-19 exposure. The App helped identify about 500,000 Bluetooth contacts. Those identified as positive Bluetooth contacts of COVID-19 or classified as needing assistance on the basis of their self-assessment are contacted by the National Health Authority. So far, the platform has reached out to more than 900,000 users and helped advise them for Quarantine, caution or testing. Among those recommended for COVID19 testing, it was found that almost 24 percent of them were found to be positive for COVID-19. Compare this to the average positive result of COVID-19 of about 4.65 per cent-145380 COVID-19 positive from a total of 3126119 experiments carried out on 26 May 2020.

Apart from that as claimed the app also became an authentic source of information regarding the Covid-19 pandemic and removed many misconceptions from the minds of the people. “Kb, Sankaranarayanan. (2020). A study on "Arogya Setu" Application as counterfeit to COVID- 19: False News circulation in Social Media. 10.13140/RG.2.2.22613.99040.”

10. CONCLUSION

The app did reach out to more than 900,000 users and helped advise them for Quarantine, caution or testing. About 4.65 percent i.e 145380 COVID-19 positive from a total of 3126119 experiments by 26 May 2020 showed the apps utility during the pandemic. But as every individual of the society we all have rights documented by the constitution of India, which guarantees each individual his/her, private space for whichever activity (considering that the activities are legal).

Any app that tracks who you have been in contact with and your specific location with pin point accuracy at all times is a clear violation of our privacy rights. The somewhat vague and lose nature of the protocol and framed policies is also a concern. Considering India’s horrible past with protecting data privacy, one of the main concerns with this app is sharing of this private data with third-party entities. Our inefficient IT Act and the still hypothetical privacy and data protection bill provide not much hope. It was undoubtedly a failure of the constitutional machinery and the protection of fundamental rights was not addressed properly. After 55 days of launch the open source conversion of the Aarogya Setu App has been one of the most required decisions taken by the Government of India. This finally made the contact tracing process of the app transparent and helped to rebuild and restore the trust of common individual into the constitutional machinery that has been put in place to safeguard his/her interests and rights. Moreover the Aarogya Setu Data Access and Knowledge Sharing Protocol, 2020 also specified that the app collected data will at most be used for six months. Though the Aarogya Setu App is now open source the responsibility of the government to use technology for our benefits during the Covid-19 pandemic is far from over. The in adequate privacy policy, the misuse of Disaster Management Act 2005 for sensitive data collection and third party sharing of data is still a ghost which haunts us. Even during an emergency situation we hope that next time whenever someone from us installs or selects any government driven application, we do it with trust and confidence.

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AGRICULTURE IN TRANSITION AMONGST THE MISING TRIBE OF ASSAM: PAST AND PRESENT

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ABSTRACT

Agriculture has been the primary source of livelihood in India. Although most of the states have moved forward from their traditional agriculture based economy towards industrial sector, the state Assam is still dependent on agricultural sector. The Misings form the second largest tribe in Assam after Bodo and agriculture forms the main livelihood of the tribe. Though the Mising tribe has continued the practice of age old and traditional system in cultivation, but with the passage of time the use of modern technologies in farming can be seen. The use of technology by the Mising farmers have brought into various changes in their farming technique, cropping pattern, their daily life as well as in the modernization of the agrarian economy. The paper is an attempt to focus on the use of technology in agriculture amongst the Misings.

Objectives: The paper is aimed to

- *Focus on the use of technology in farming*
- *Highlight the effect of technology in the agrarian economy and daily life of the people*

METHODOLOGY

The present study is based on the analysis of primary and secondary sources. Primary sources for this study would be oral narratives collected through observation and personal interviews. The oral sources will be supplemented by secondary literature such as books, journal, articles, etc.

INTRODUCTION

The Misings are ethnic tribal group and the second largest tribal group in Assam, India. The mising people are called Miri or Mising. They are originally the hill tribes of the Himalayan region of North East India, living in the mountain range lying between Subansiri and Siyang district of Arunachal Pradesh, India.

The Misings ethnically belonged to the Tibeto Burmese group of Mongoloid stock and originally they belonged to the same group of tribe comprised of Nishi, Monyong, Pa:dams,etc. who are found in the district of Siyang and Subansiri of present Arunachal Pradesh. Misings of Brahmaputra valley and Nishis and Adis of Arunachal Pradesh have more or less the same religious belief, socio-cultural system and speak the same language. The Misings who were originally the hill tribes of Arunachal Pradesh migrated down to the plains in search of a peaceful and better economic life. The Misings settled along the banks of Brahmaputra and its tributaries and spread over a wide area in the plains and are found in the districts of North Lakhimpur, Dhemaji, Sonitpur, Sibsagar, Majuli,Jorhat etc.

Misings are riparian and they are mostly found to inhibit the areas which are in the vicinity of the rivers. Since Misings are agriculturalist they considered riparian lifestyle to be ideal for cultivation. Cultivation in the tribe has come a long way since the beginning of time. As rice is the staple food in the tribe, it is cultivated extensively. Mostly bulls were the main help in plouging a field. Men in the tribe would rise early at dawn and go out for the field works such as ploughing, and preparing the field beds for sowing. It was a long and tiresome process. But now with the growing technology the pain of labor has decreased tremendously. Now the ploughing of a week is done in a day with the coming in of modern tools of farming such as tractors, power tillers etc.

The different method of tilling the land and leveling it for sowing is now easily done with machines. Water pumps help in better harvest by supplying water easily to the field. The harvested rice being reaped were carried in dual bundle by the men themselves from the field to their homes on their shoulder, on a bamboo made shaft called “Bira” in their local language. The collection of reaped crops took days to be stored. Now the same is completed within a day with help of tractors leading to decrease in the amount of labor and time consumed.

In the earlier days, the women had to trash out the rice in different process. First, they had to separate out the rice from the straw with their feet rubbing them out against the ground. After successfully separating, the rice is again separated from the rough husk using the help of the wind. It was then sundried for grinding. The dried rice is pounded in a wooden made tool with a flat surface and a hole called “Ki:par” in Mising, with the help of a wooden shaft with a heavy metal ring in the end called “Ii:gi”. All these works had to be done by the women in the house. They had to wake up before dawn to get this work done. But now rice mills and rice thrashing machines have come to the rescue. Technology has without any doubt helped a lot in reducing labor hours and made lives easier for the tribe.

BODY

The Misings are mostly agriculturalist and their economic structure is essentially based on agricultural production. As mentioned earlier the Misings ethnically belong to the same tribe comprised of Nishi, Minyongs, Pa:dams,etc. who are found in the districts of Siyang and Subansiri districts of present Arunachal Pradesh. The census report of Assam 1881 states that Misings, Daphla(Nishi), etc. are the names which have been given by the Assamese to these sections of people inhabiting in the Assam valley and Tibet.

The social and economic structure of the Mising tribe has undergone changes over time. Occupational pattern, cultural and economic activities has been changing slowly but in a definite way in the Mising society. Changes are inevitable with the change in the science and technology, establishment of educational institution, emergence of market economy and closer interaction with the non tribal people.

Before migrating to the plains of Assam, the Mising tribe practiced shifting cultivation/Jhum cultivation. Jhum cultivation or Shifting cultivation is a primitive technique, involving clearance of forest land wherein the cultivators select a patch of forest land for cultivation and cut the vegetations and cultivate there for two or three years. After cultivating they abandon the land for 8 to 10 years to allow the natural forest to grow back and the soil to regain its fertility. They had only few agricultural tools for that particular farming technique. They were axe, dah (knife),hoe, etc. Thus before migrating to the plains the techniques used were primitive. The mode of living before and even after they had come down to the plains of the Brahmaputra valley was marked by food gathering features partially mixed with jhuming. The early British records referring to the Mising people in the plains of Sisi, Dhemaji and Bordalani (present Lakhimpur and Dhemaji) mention that in those regions they had adopted shifting cultivation of rice namely Ahu and Bao. The Mising tribe started adopting non tribal way of cultivation thus started accepting the method of wet cultivation. Old way of Jhuming gave way to shifting of Ahu and Bao cultivation in the plains along with other crops such as mustard and pulses. Hence the Misings adopted technology, tools and implements of settled cultivation from the Assamese peasants. The tools are namely Nangal (plough), Juwali (Yoke), Dila (shaft of a plough), Phal (plough share),etc.

Thus they became fully acquainted with the tools and techniques of crop cultivation and they sometimes made their own tools as well. They started adopting animal energy for forrowing and tilling of soil before sowing seeds there on. Cultivation became the main occupation for the Mising tribe and peasantry has been the whole sustenance of the Mising economy throughout the medieval period. The peasants needed a pair of oxen or bull and all the above mentioned tools for cultivation. Those who could not posses oxen were reduced to the status of menial labor or domestic ploughman (haluang).

Men and women both engaged themselves in the farming activities all year round. Rice, cereals, pulses, vegetables such as potatoes, pumpkin etc. were grown but the cultivation of rice took the highest priority. Rice became the staple food of the Mising tribe hence rice was extensively produced making it the main crop of the community. Three types of rice were produced namely Sali, Ahu and Bao. A plate of rice and a bowl of curry became the daily meal of the tribe. Even the traditional brew of the tribe, Apong was fermented out of rice. Although different types of crops were produced, they were only for self consumption and self sustenance for a very long time. But with the increasing interaction with the non tribal, establishment of educational institutions, emergence of market economy, better facilities of communication and transport etc. the Mising tribe came in contact with the outer world thus contributing to the modernization of the agrarian economy.

Rice cultivation and other vegetables gave them food sufficiency all year round but with the changing world and changing lifestyle of the tribe different necessary goods were needed. Money was necessary to buys all the products which could not be produced domestically like salt initially, later oil, yarns, etc. Thus to meet the extended requirements money was needed. Social life at a certain phase of development cannot go without commerce and exchange, necessitates the use of money. Cultivation of cash crops was the best possible option for the Mising tribe. Thus imitating their neighbourhood they started cultivating cash crops. Mustard (petu areeg) and pulses particularly blackgram (peyhread areeg) were produced abundantly. Cultivation of jute and sugarcane was also undertaken. All the surplus vegetables like pumpkin, potatoes, green chilies, yams etc were taken to the market for sale. The agricultural commodities for sale in the markets helped the people to change the economic structure from subsistence economy to money economy. Better transportation and better roads has helped in boosting the agrarian economy further.

The data from the present study were collected from Baligaon Miri, a village situated in the Sonitpur district of Assam. Baligaon Miri is around 30 Km far from Tezpur town. The total household in the village is 248 and the total population is 1318 as per the records of Siloni Gaon Panchayat.

Agriculture is the main occupation of all the families in the village. In Baligaon Miri the main Agricultural products are rice, black pulse, mustard, yam, jute, sugarcane, and other vegetables. According to the villagers these crops were produced only for self sustenance and self consumption and sometimes for barter among themselves. But now-a-days these crops are cultivated for commercial purpose. With the emergence of markets in the nearby centre of Baligaon Miri village such as Khanamukh centre, Lokra (a weekly market) and other weekly markets now the tribes are able to sell their sulplus product in the market.

The average landholding of an individual family in the village is 20 bighas but the landholding varies from 5 to 50 bighas. With the increase in population the burden on the land has increased substantially. Since land has become comparatively scarce, the people in the village have adopted intensive cultivation and crop rotation. They now produce several varieties of crops on a single plot of land for e.g. right after harvesting paddy they start the cultivation of potatoes. The landless farmers or the farmers with lesser land holdings cultivate other’s land called “Adhi” in their local language and the families. According to the villagers

At present advanced production techniques, production appliances are being adopted by the Mising tribe. With the new technique of production they are now able to produce in surplus and are able to sell the surplus in the market. Today besides the use of plough and bullocks in cultivation modern tools and methods are being adopted such as tractors, power tillers, water pumps, various pesticides, insecticides and high yielding variety seeds are being used. In Baligaon Miri out of 248 household 40 household owns tractor, 3 households own thrasher, more than 100 households own water pump and about 7 households own power tiller. This shows the increasing use of modern technology in farming. Traditional ploughs and bullocks are hardly used in Baligaon Miri village.

The major findings of the study can be summarized below:

- The traditional economic structure of the village has undergone change and people now are motivated for selling their agricultural product.
- The change is due to the improved transportation and communication and emergence of marketing centres in the area.
- Increase in interaction with the non-tribals have contributed in the change in the cropping pattern from subsistence to money oriented.

CONCLUSION

Machines and modern technology has indeed made life a lot easier. The work of dozen people can be done now by a single person and a week work in a day. The present day of cultivation in the tribe has come a long way from early days, yet the Mising community comprises more of the economically weaker section. There are still many in the community who cannot afford the utilization of the machineries and technologies due to poor financial condition and have to depend on the old methods of using bulls in the field and manual works for getting the harvest to the plate. The government should help in this by providing adequate subsidies, loans at lesser interest rate, proper irrigation facilities, provide awareness programs about the various schemes of the government and by providing prospects for investment in agriculture. The youths of Mising community has reached far in terms of education and society building, but most of the learned ones tend to go into the line of the government or private services. Most of them go for a secure and easy lifestyle. Hence the field of agriculture has not been upgraded by the youths. Yet some of them has kept the agricultural dream alive and put on time in harvesting in modern techniques and ideas. If more youths come out with more ideas with their knowledge in the field of agriculture in the community, there will be a boost in that field and a revolution for the Mising tribe.

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CANTEEN SERVICE QUALITY AND STUDENT SATISFACTION: A CASE OF RTM NAGPUR UNIVERSITY, MAHARASHTRA, INDIA.

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ABSTRACT

College students' food service needs is an important area that needs more research. While the importance of offering quality education is paramount, for many colleges that are embattled in their quest to retain students, attention to food services can be important. The canteen facility of university impacts the smooth development of teaching and scientific research. It concerns the immediate interests of students and the harmony and stability of universities and society. It drags the attention from all sides. The aim of the study is to understand satisfaction of students about canteen service quality of RTM Nagpur University. The researcher has collected data from the questionnaire survey and uses SPSS 22.0 software to execute descriptive statistical analysis and correlation Analysis to evaluate the student's satisfaction with the canteen. The research will encourage to canteen service provider to improve canteen facility based on findings.

Keywords: University Canteen, Students Satisfaction, Correlation Analysis, Findings and Conclusion.

1. INTRODUCTION

Canteen is a very important facility for the students through which a better standard of food and refreshments can be obtained, when compare to the make shift hotels that spring up around university. Moreover, through these canteens wholesome food and refreshments can be provided to the students at reasonable prices so as to make available to them a balanced sand hygienic food. This is likely to improve their health and efficiency. Canteens also serve as places where students can meet informally and refresh themselves by a relaxing conversation. The canteens are also an instruments of social change, as the students belonging to different castes will have to sit at the same tables and take their food. Thus, a canteen can help in improving the morale of the students. Further, the availability of the food stuffs within the university area reduces botheration and saves time of the students, otherwise they will have to go out of the university. In this context the RTM Nagpur University in Nagpur is observed. “Besides good environment and ventilation, adequate dining accommodation is also an essential requirement for the students. It is necessary that such accommodation should be more ample for students.”

2. REVIEW OF LITERATURE

This part deliberately presented the different views of authors, findings from previous studies, and varied ideas from research writers regarding canteen service quality and student satisfaction. They are as follows:

According to Bell and Swinburn 2014 has stated university canteen is an important influence on Student’s diets as they can be the source of a substantial proportion of Student’s daily nutrition on school days.

Kanarek 2016 expressed that the food products sold in canteens can directly influence weight outcomes as well as have an impact on school performance through students’s energy levels and ability to concentrate.

Bell and Swinburn 2017 described the provision of unhealthy foods in canteens leads stundent to believe that these products are appropriate for daily consumption.

In this area there was no research conducted before. So we don’t have any secondary data to work on it.

3. OBJECTIVES OF THE STUDY:

1. To understand the students satisfaction regarding canteen services at RTM Nagpur University, Nagpur.
2. To provide suggestion based on findings and conclusions.

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3. SIGNIFICANCE OF THE STUDY

The study results may be beneficial to the following:

1) University Administrators this results of this will be helpful to frame policy either for restructuring or for improving existing canteen services.
2) Canteen Service Providers: It will helpful to them to identify priority areas of improving canteen services to better serve its students and customers.
3) Academicians: they will provide feedback to university administrators and canteen service provider affordable prices, nutritional foods, maintaining cleanliness, and sanitation.
4) Students: it will be beneficial to students to understand the service quality of Canteen.
5) Future Researcher: it will be an index in depth study on student's satisfaction about canteen services.

4. MATERIALS AND METHODS

This study adopted a descriptive survey research design. 150 students studying Home Economics in Nagpur University have selected randomly from total population of RTM Nagpur University. Researcher has framed structured questionnaire titling Home Economics Students, RTM Nagpur University, Nagpur.

The data were analyzed using simple means and one way Analysis of Variance (ANOVA). The result of the Analysis has been summarized in Tables 1, 2 and 3

Table 1

Sample Statistics

Type	**Item**	**Frequency**	**Percentage**	**Total**
Gender	Male	93	62	**150**
	Female	57	38	
Stream	FYBA	66	44	
	SYBA	39	26	
	TYBA	45	30	
Number of weekly consumption in canteens	0-7	42	28	
	8-14	80	53.3	
	15-21	28	18.7	

(Source: Primary Data/SPSS 22.0)

Interpretation: Table 1 gives details of respondents of different profile of total sample 150. First part shows that 62% and 38% respondents are male and female respectively. Second part describes about stream of the Home Economics students of RTM Nagpur University. The respondents are FYBA (44%), SYBA (26%) and TYBA (30%) respectively. In third part students who are doing Number of weekly consumption in canteens. Majority respondent's i.e.53.3% who's number of weekly consumption in canteen is 8-14 times.

Table 2

	Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
Overall Satisfaction	8.7	11.3	16	50	14
Variety, Quality, Quantity, Healthy, Taste	10.7	14	13.3	26.7	35.3
Hygiene, Capacity Amenities, Ambience	11.3	16	12.7	54	6
Value for money, Affordability, Credit Facility	8.7	12.7	16	36.7	26
Hospitality, Delivery Time, Hygiene of Staff, Nature of staff	8.7	12.7	15.3	50.7	12.7
Total	**150**				

(Source: Primary Data/SPSS 22.0)

Interpretation: Table 2 indicated that respondents have opined on Overall Satisfaction Variety, Quality, Quantity, Healthy, Taste, Hygiene, Capacity Amenities, Ambience, and Value for money, Affordability, Credit Facility and Hospitality, Delivery Time, Hygiene of Staff, Nature of staff. It is based on structured questionnaire using Likert Scale. Students have responded for parameter 'Overall Satisfaction' and 'Hospitality, Delivery Time, Hygiene of Staff, Nature of staff' among all parameters.

TABLE 3: ONE WAY ANOVA

Items	**Gender**		**Stream**		**Number of weekly consumption in canteens**	
	F	Sig	F	Sig	F	Sig
Overall Satisfaction	20.805	0.0	45.321	0.0	173.583	0.0
Variety, Quality, Quantity, Healthy, Taste	26.405	0.0	118.592	0.0	228.127	0.0
Hygiene, Capacity Amenities, Ambience	48.14	0.0	94.163	0.0	310.162	0.0
Value for money, Affordability, Credit Facility	12.913	0.0	81.892	0.0	175.605	0.0
Hospitality, Delivery Time, Hygiene of Staff, Nature of staff	31.508	0.0	70.456	0.0	205.341	0.0

(Source: Primary Data/SPSS 22.0) Significant at the 0.05 level of probability

Interpretation: Analysis of variance test (ANOVA) was utilized to test the hypothesis of no significant difference in the parameters as presented in Table 2. The result revealed a calculated F. ratio is higher than the critical table F-Value at 0.05 level of probability. The hypothesis show significant difference was therefore retained.

5. SUGGESTION

1. Students should give regular feedback to the Canteen service provider for improving the quality.
2. Canteen service provider should not involve in unethical aspect but work for students well-being. They should not increase the price prior notice of University Administrators and intimate to students and academicians.
3. University administrator should monitor and watch the Canteen service provider operation on regular intervals.

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DETECTION OF AGE AND GENDER USING PITCH AND FORMANTS OF BODO VOWELS

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ABSTRACT

Gender detection and age estimation from speakers of different age groups both male and female will be analyzed by using different acoustic parameters from collected voice samples. This paper proposes to detect gender as well as estimate age, based on formants and pitch. Each feature is analyzed individually to find the maximum accuracy. For this purpose Bodo language speech corpus is collected from native Bodo language speakers belonging to Bodoland Territorial Council region of the state of Assam, India. Age estimation and gender identification refers to the automatic process through which we can determine or estimate the age and identify the gender from a speech sample. The main way of estimating age is based on human voice, by observing, measuring and comparing the acoustic features of different age group of male and female.

The primary objective is to develop a speech recognition system which has language specific applications. The present work provides the basic frame work of a model which can be extended to achieve that objective.

Keywords: Acoustic features, Gender, Age, Formant, Pitch, Bodo language, Bodo vowels.

1. INTRODUCTION

Bodo or Boro is a language spoken by the Bodo people in the North-eastern part of India basically in Assam, and some parts of West Bengal, Bangladesh and Nepal. Bodo is a Tibeto-Burman family language, it is included in the 8^{th} schedule of the Indian Constitution in the year 2003 and it is also one of the official languages in the state of Assam in India. Acoustic signal has many level of information like what is spoken, who is speaking, which language is being spoken, emotions and gender information [1, 2]. A human listener can easily identify what/who is talking, which language has been used and detect approximate age and gender of the speaker. This information is called voiced information which can be described by different acoustic parameters. Female speak with higher fundamental frequencies than male [3]. This difference occurs due to physiological difference like vocal tract thickness, length and speaking style [6]. However, gender classification between children is a big issue because F0 and formant frequencies are not easily distinguishable between boys and girls [4].

1.1 Features

Feature is the vector of numbers which represent one time-slice of a speech signal [8]. A speech signal is a slowly time varying signal, when examined over a sufficiently short period of time, its characteristics are fairly stationary. Therefore, speech signal is divided into frames of short-time duration by means of “windowing” technique for further processing.

1.1.1 Pitch

The Pitch of a sound is the perceptual correlate of frequency. If a sound has a higher frequency, it is perceived that it has higher pitch. It is estimated by using short term autocorrelation function in time domain.

1.1.2 Formant

The resonances of the vocal tract are called formants. There are several methods of formant extraction such as peak picking, Hidden Markov Model (HMM) and LP model pole extraction. In this work formants are calculated using LP model pole extraction method. Formant F0 for adult males is typically around 120 Hz, while F0 for adult females is around 210 Hz.

2. EXPERIMENT

Considering 60 person, 30 male and 30 female from native Bodo language speakers belonging to Bodo community are recorded for utterance of six Bodo vowels. The speech signal is broken down into short frames. The speech for the frame is generally between 10ms to 20ms long. The framed signal is multiplied by a hamming window function to smooth the signal for computation. The hamming window

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is usually used in speech signal spectral analysis, because its spectrum falls off rather quickly so the resulting frequency resolution is better, which is more suitable for detecting formants.

The mathematical representation of Hamming window is:

$$W(n) = 0.54 - 0.46\cos\left(\frac{2n\pi}{N-1}\right), \quad 0 \leq n \leq N-1$$

MFCC and Delta MFCC are used to build model for gender and radial basis function network is used for classification in Multilanguage environment [6]. Formant, Pitch and their combination are used for gender classification by the author of [5]. Pitch has been extracted by Autocorrelation, Cepstrum and Average Magnitude Difference (AMDF) methods [5]. Formants are calculated using LP model pole extraction method. Formant F1 and Pitch are used as parameter for gender detection [5]. Mean value of both the parameters are calculated for male and female. By calculating nearest neighbour value with the help of Euclidean distance speaker was classified between male and female. A sufficient difference between average pitch value of male and female speech sample has been observed where female pitch value is higher than that of male. But in some cases pitch value of male become higher than that of female [7]. So authors of [7] used fuzzy logic and neural network for this purpose. A language independent and robust to noise gender classification system is designed using GMM in [8, 9].

2.1 Data collections

The corpus is designed and recorded using a good quality microphone in a quiet room, kept at about 5cm far from mouth. Cool Edit Pro software has been used to record the voice. To collect the data we consider the native Bodo language speakers belonging to Kokrajhar District of Assam, India. The corpus consists of utterances of 6 vowels of Bodo Language, considering 30 males and 30 females from different age groups: 16-20, 21-25, and 26-30 with 10 males and 10 females in each age group altogether forming 6 groups, 3 male groups for 3 age groups and 3 female groups for 3 age groups. The speech was sampled at 16 KHz and digitized with 16 bits. Duration of each session lasts approximately 10 seconds. The following Table 1 shows the vowels in Bodo language:

Table 1: Bodo Vowels

अ /o/	आ /a/	इ /i/	उ /u/	ए /e/	ओ /w/

2.2 Detection of Formants:

Average of Formants (F1, F2, F3) of both Male and Female from the age group (16-20, 21-25 and 26-30):

Table 2: Comparison of F1 for Male/Female in age group 16-20.		
AVERAGE F1 IN HERTZ FOR AGE GROUP 16-20		
VOWELS	MALE	FEMALE
अ	626.55	592.654
आ	858.544	1074.62
इ	354.209	387.124
उ	503.324	480.826
ए	524.552	603.145
ओ	520.39	602.37

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Vol.40-Issue.89-March, 2020

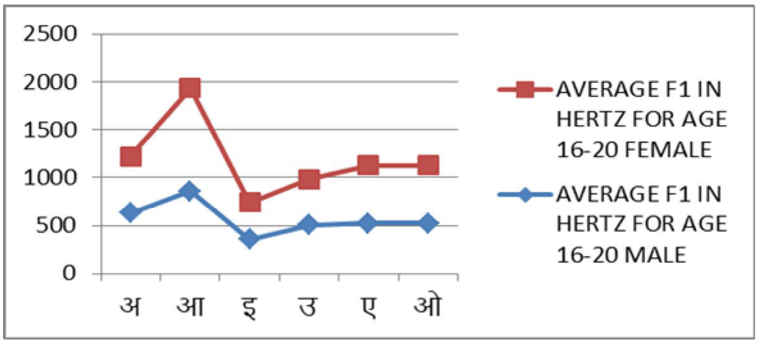

Figure 1: Graphical representation of F1 from table 2.

Table 3: Comparison of F1 for Male/Female in age group 21-25.		
AVERAGE F1 IN HERTZ FOR AGE 21-25		
VOWELS	MALE	FEMALE
अ	548.113	671.669
आ	737.062	1124.96
इ	297.252	395.964
उ	427.498	515.266
ए	420.99	584.535
ओ	438.945	671.669

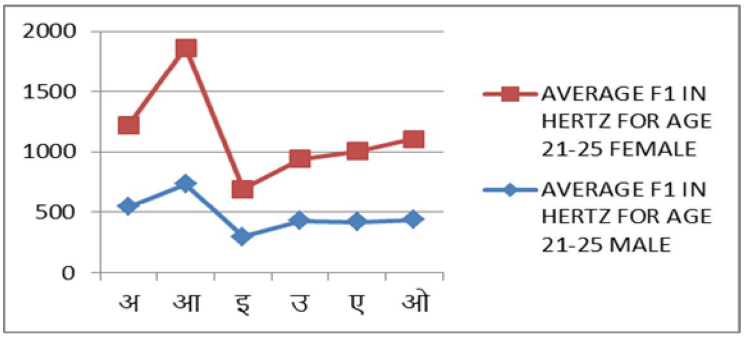

Figure 2: Graphical representation of F1 from table 3.

Table 4: Comparison of F1 for Male/Female in age group 26-30.		
AVERAGE F1 IN HERTZ FOR AGE 26-30		
VOWELS	MALE	FEMALE
?	538.415	611.968
?	840.579	955.8324
?	311.664	391.422
?	363.234	488.332
?	440.04	532.414
?	422.868	524.887

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

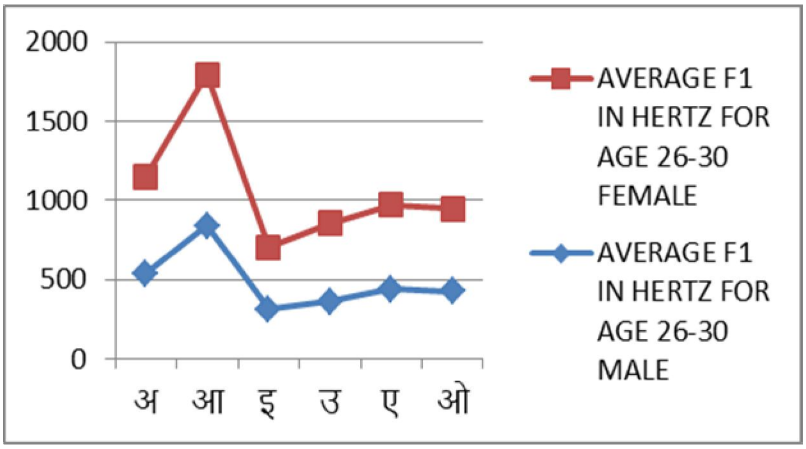

Figure 3: Graphical representation of F1 from table 4.

Table 5: Differences in average F1 for Males among the three age groups			
Differences of average F1 for Males			
VOWELS	Age group 16-20	Age group 21-25	Age group 26-30
?	626.55	548.113	538.415
?	858.544	737.062	840.579
?	354.209	297.252	311.664
?	503.324	427.498	363.234
?	524.552	420.99	440.04
?	520.39	438.945	422.868

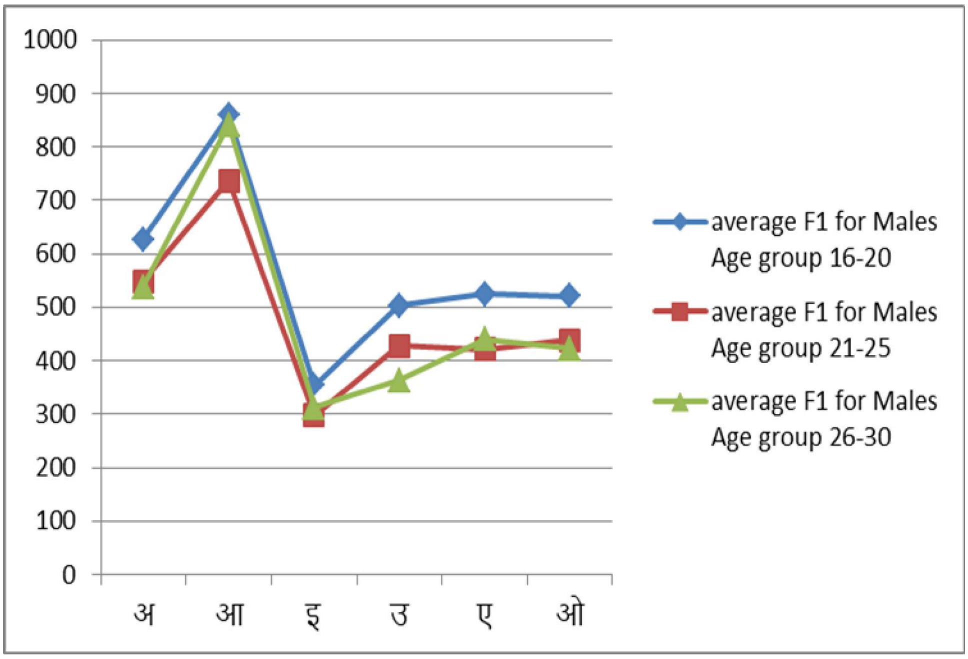

Figure 4: Differences of average F1 for Males from Table 5.

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Vol.40-Issue.89-March, 2020

Table 6: Differences in average F1 for Females among the three age groups.			
Differences of average F1 for Females			
VOWELS	Age group 16-20	Age group 21-25	Age group 26-30
अ	592.654	671.669	611.968
आ	1074.62	1124.96	955.8324

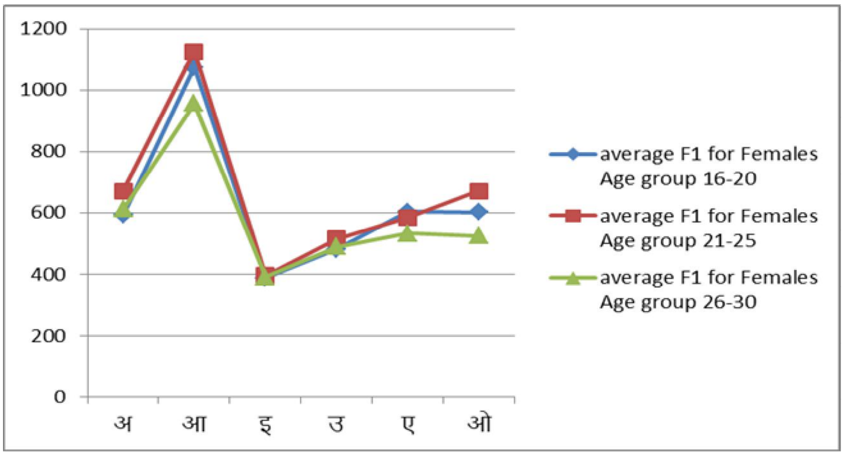

Figure 5: Differences of average F1 for Females from Table 6.

Table 7: Comparison of F2 for Male/Female in age group 16-20.		
AVERAGE F2 IN HERTZ FOR AGE 16-20		
VOWELS	MALE	FEMALE
अ	1031.64	1053.674
आ	1365.84	1570.5
इ	2265.44	2178.498
उ	1535.55	1061.147
ए	2113.3	1967.56
ओ	1398.56	1389.345

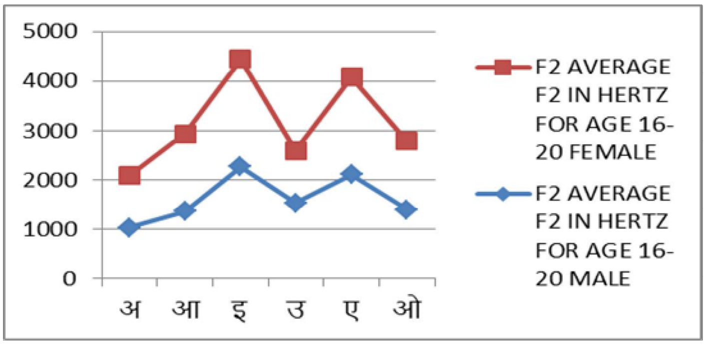

Figure 6: Graphical representation of F2 from Table 7.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Table 8: Comparison of F2 for Male/Female in age group 21-25.

AVERAGE F2 IN HERTZ FOR AGE 21-25		
VOWELS	MALE	FEMALE
अ	1108.65	1073.93
आ	1340.98	1599.13
इ	2137.03	1918.56
उ	1206.9	1249.05
ए	1998.45	2049.03
ओ	1421.48	1498.39

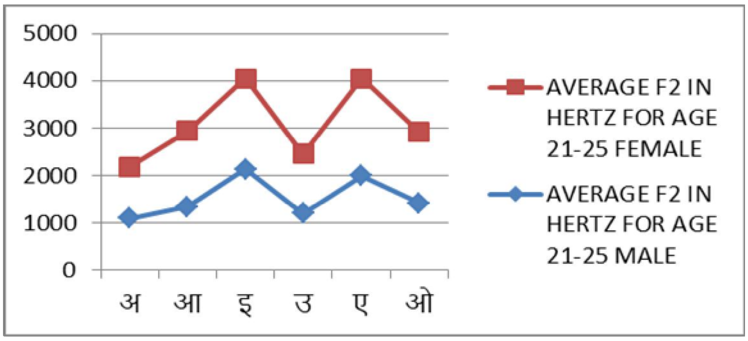

Figure 7: Graphical representation of F2 from Table 8.

Table 9: Comparison of F2 for Male/Female in age group 26-30.

AVERAGE F2 IN HERTZ FOR AGE 26-30		
VOWELS	MALE	FEMALE
अ	1086.649	1274.368
आ	1369.681	1654.468
इ	1965.299	1618.472
उ	1105.6	1181.997
ए	2066.412	1578.807
ओ	1366.012	1474.355

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

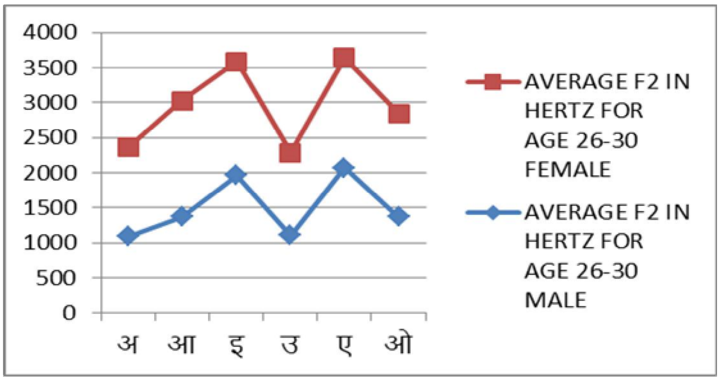

Figure 8: Graphical representation of F2 from Table 9.

Table 10: Differences in average F2 for Males among the three age groups.

Differences of average F2 for Males			
VOWELS	Age group 16-20	Age group 21-25	Age group 26-30
?	1031.64	1108.65	1086.649
?	1365.84	1340.98	1369.681
?	2265.44	2137.03	1965.299
?	1535.55	1206.9	1105.6
?	2113.3	1998.45	2066.412
?	1398.56	1421.48	1366.012

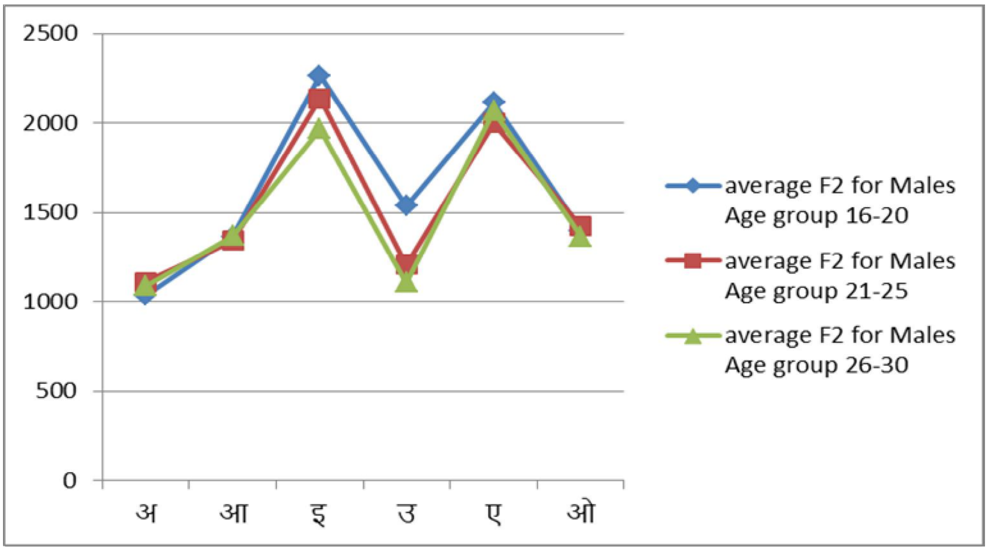

Figure 9: Differences in average F2 for Males from Table 10:

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Table 11: Differences in average F2 for Females among the three age groups.			
Differences of average F2 for Females			
VOWELS	Age group 16-20	Age group 21-25	Age group 26-30
अ	1053.674	1073.93	1274.368
आ	1570.5	1599.13	1654.468
इ	2178.498	1918.56	1618.472
उ	1061.147	1249.05	1181.997
ए	1967.56	2049.03	1578.807
ओ	1389.345	1498.39	1474.355

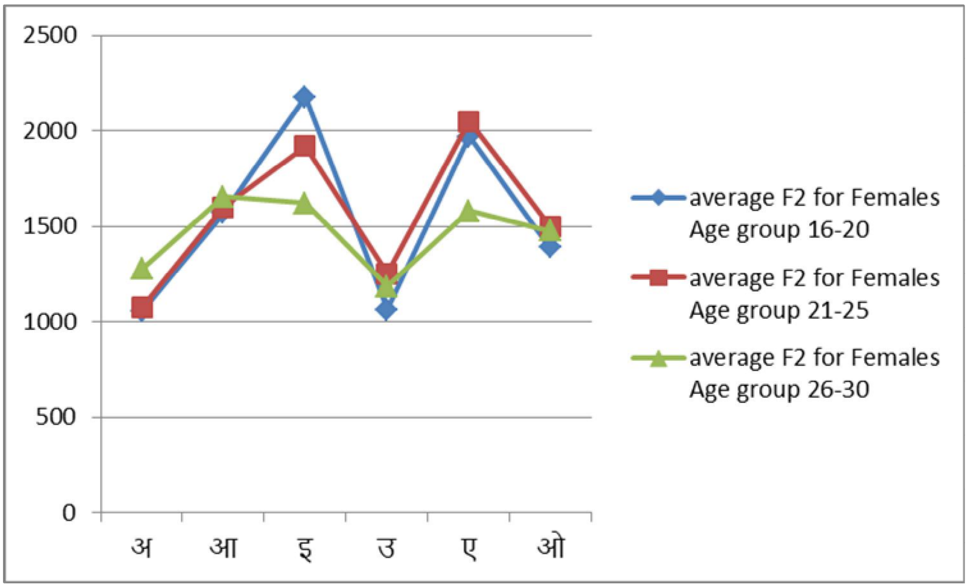

Figure 10: Differences in average F2 for Females from Table 11:

Table 12: Comparison of F3 for Male/Female in age group 16-20.		
AVERAGE F3 IN HERTZ FOR AGE 16-20		
VOWELS	MALE	FEMALE
अ	2827.548	2962.15
आ	2782.828	2650.84
इ	3060.655	3066.07
उ	2987.883	2939.55
ए	2795.494	2801.31
ओ	2799.309	2964.25

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

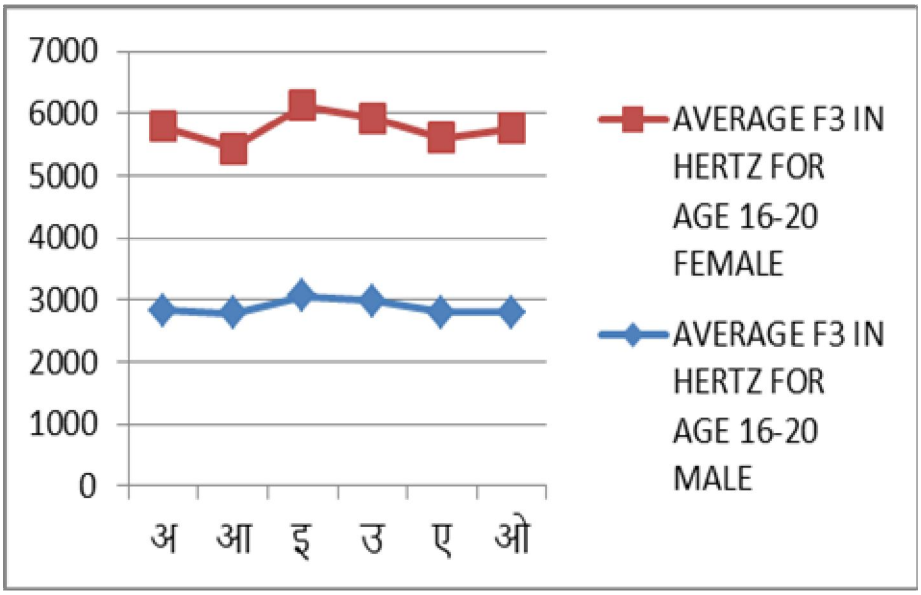

Figure 11: Graphical representation of F3 from Table 12.

Table 13: Comparison of F3 for Male/Female in age group 21-25.		
AVERAGE F3 IN HERTZ FOR AGE 21-25		
VOWELS	MALE	FEMALE
अ	2757.798	2948.06
आ	2657.688	2807.98
इ	3004.439	3045.03
उ	2641.49	3000.3
ए	2666.036	2824.76
ओ	2527.636	2966.01

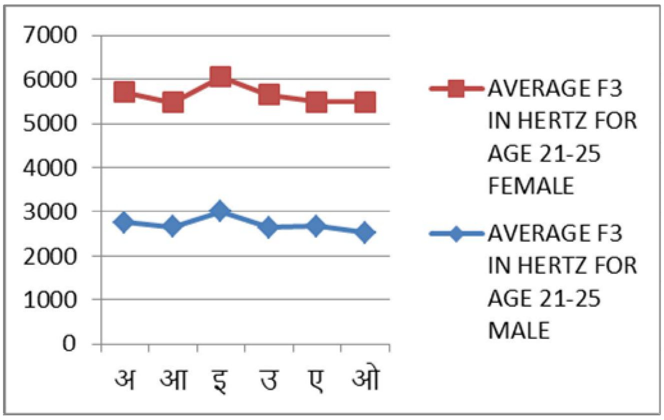

Figure 12: Graphical representation of F3 from Table 13.

Table 14: Comparison of F3 for Male/Female in age group 26-30.		
AVERAGE F3 IN HERTZ FOR AGE 26-30		
VOWELS	MALE	FEMALE
अ	2573.138	2651.852

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

आ	2529.32	2405.021
इ	2721.584	2889.884
उ	2557.867	2687.135
ए	2632.098	2678.852
ओ	2558.374	2530.372

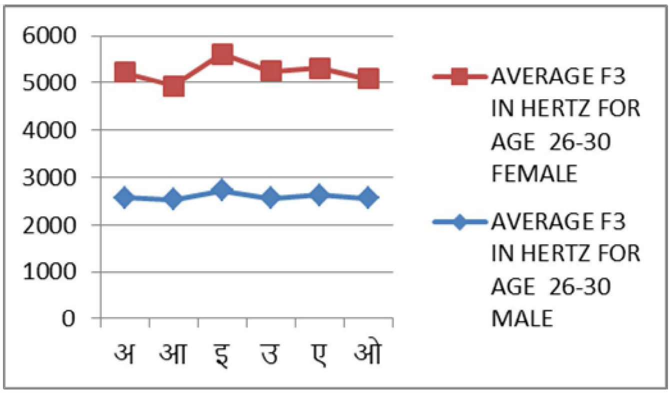

Figure 13: Graphical representation of F3 from Table 14.

Table 15: Differences in average F3 for Males among the three age groups.			
Differences of average F3 for Males			
VOWELS	Age group 16-20	Age group 21-25	Age group 26-30
?	2827.548	2757.798	2573.138
?	2782.828	2657.688	2529.32
?	3060.655	3004.439	2721.584
?	2987.883	2641.49	2557.867
?	2795.494	2666.036	2632.098
?	2799.309	2527.636	2558.374

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

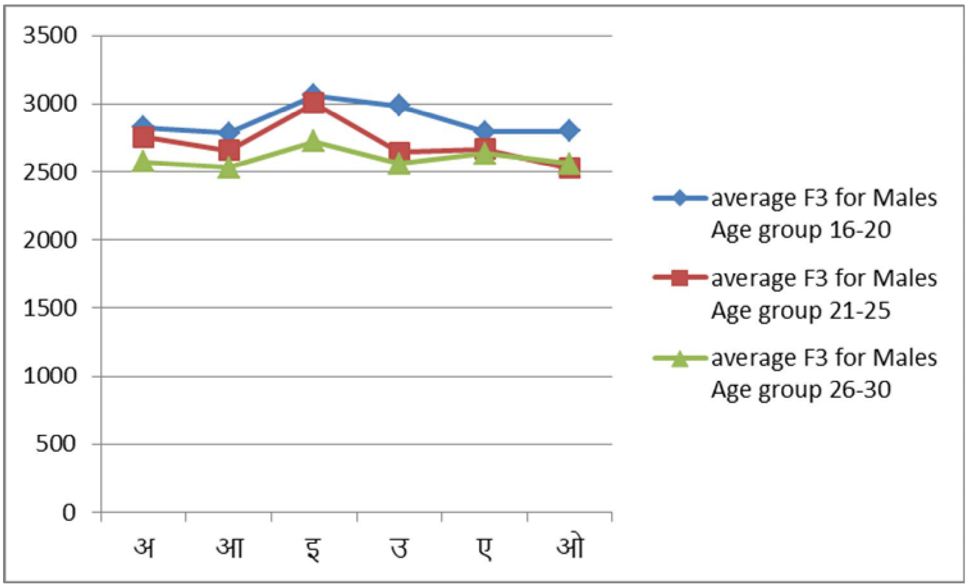

Figure 14: Differences in average F3 for Males from Table 15.

Table 16: Differences in average F3 for Females among the three age groups.

Differences of average F3 for Females			
VOWELS	Age group 16-20	Age group 21-25	Age group 26-30
अ	2962.15	2948.06	2651.852
आ	2650.84	2807.98	2405.021
इ	3066.07	3045.03	2889.884
उ	2939.55	3000.3	2687.135
ए	2801.31	2824.76	2678.852
ओ	2964.25	2966.01	2530.372

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

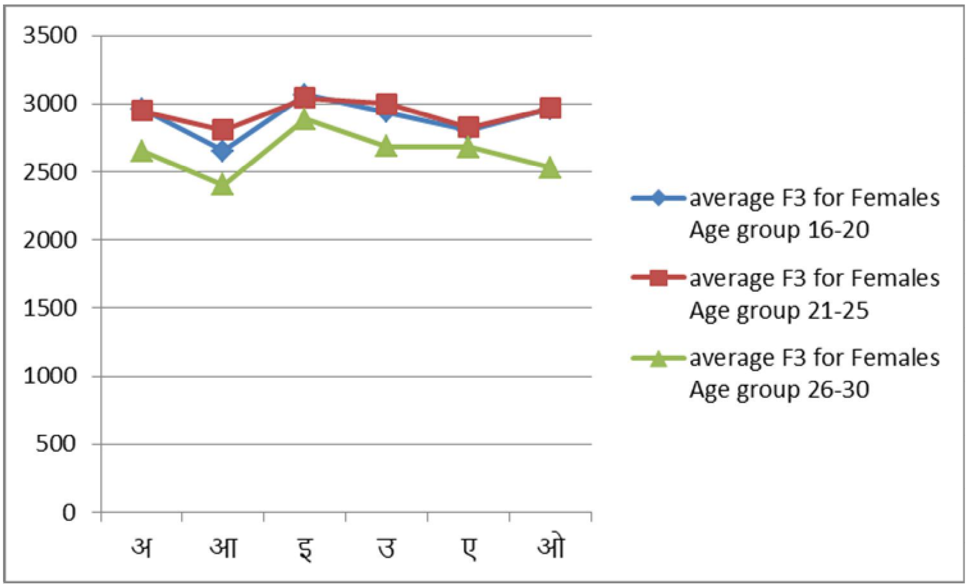

Figure 15: Differences in average F3 for Females from Table 16.

2.3 Detection of pitch:

Average pitch of bodo vowels for both male and female from (age group 16-20, 21-25 and 26-30)

Table 17: Comparison of Pitch for Male/Female in age group 16-20		
Average Pitch In Hertz For Age 16-20		
VOWELS	MALE	FEMALE
अ	193.986	246.092
आ	188.763	282.756
इ	164.227	282.286
उ	189.848	261.029
ए	189.098	262.023
ओ	155.62	270.718

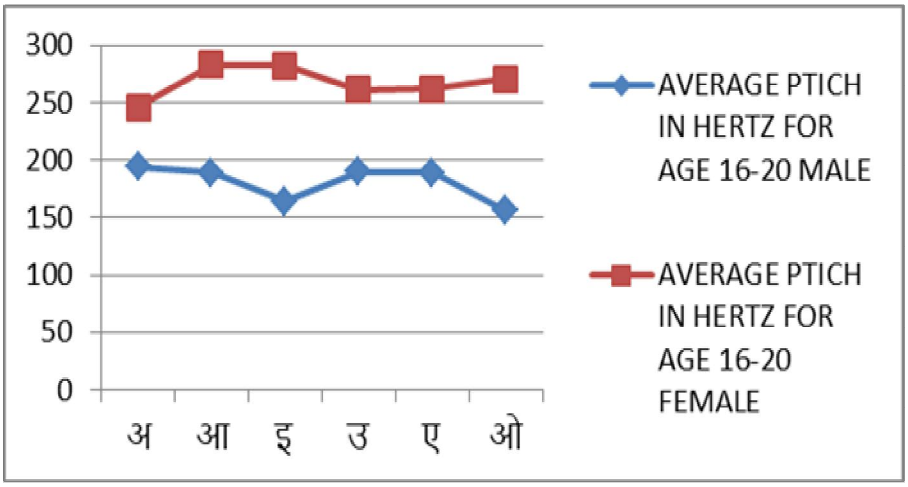

Figure 16: Graphical representation of Pitch from Table 17.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Table 18: Comparison of Pitch for Male/Female in age group 21-25		
Average Pitch In Hertz For Age 21-25		
VOWELS	MALE	FEMALE
अ	191.985	240.577
आ	162.933	272.445
इ	160.457	275.809
उ	170.58	278.149
ए	152.627	246.664
ओ	156.81	250.326

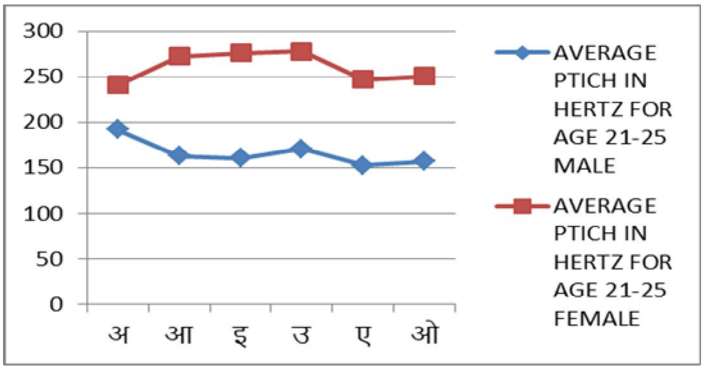

Figure 17: Graphical representation of Pitch from Table 18.

Table 19: Comparison of Pitch for Male/Female in age group 26-30		
Average Pitch In Hertz For Age 26-30		
VOWELS	MALE	FEMALE
अ	185.112	225.506
आ	126.261	226.891
इ	149.686	251.46
उ	156.261	254.204
ए	140.169	223.589
ओ	146.705	223.941

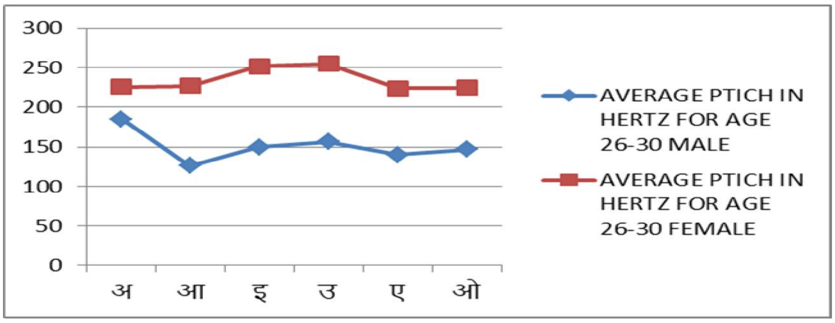

Figure 18: Graphical representation of Pitch from Table 19.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Comparison of differences in average pitch among Males from different age groups:

Table 20: Comparison of average Pitch for Males in age group 16-20, 21-25, 26-30			
Differences in average pitch in hertz for males			
VOWELS	Age group 16-20	Age group 21-25	Age group 26-30
अ	193.986	191.985	185.112
आ	188.763	162.933	126.261
इ	164.227	160.457	149.686
उ	189.848	170.58	156.261
ए	189.098	152.627	140.169
ओ	155.62	156.81	146.705

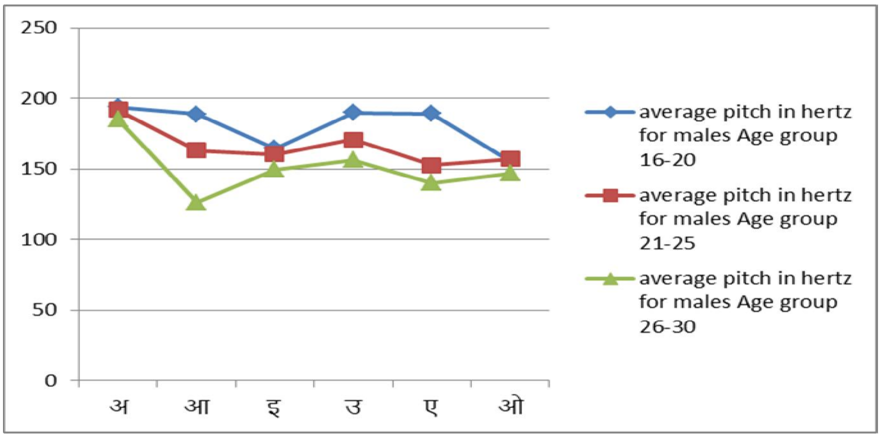

Figure 19: Differences in averages pitch of Males among the given age groups from Table 20:

Comparison of differences in average pitch among Females of different age groups:

Table 21: Comparison of average Pitch for Females in age group 16-20, 21-25, 26-30			
Differences in average pitch in hertz for Females			
VOWELS	Age group 16-20	Age group 21-25	Age group 26-30
अ	246.092	240.577	225.506
आ	282.756	272.445	226.891
इ	282.286	275.809	251.46
उ	261.029	278.149	254.204
ए	262.023	246.664	223.589
ओ	270.718	250.326	223.941

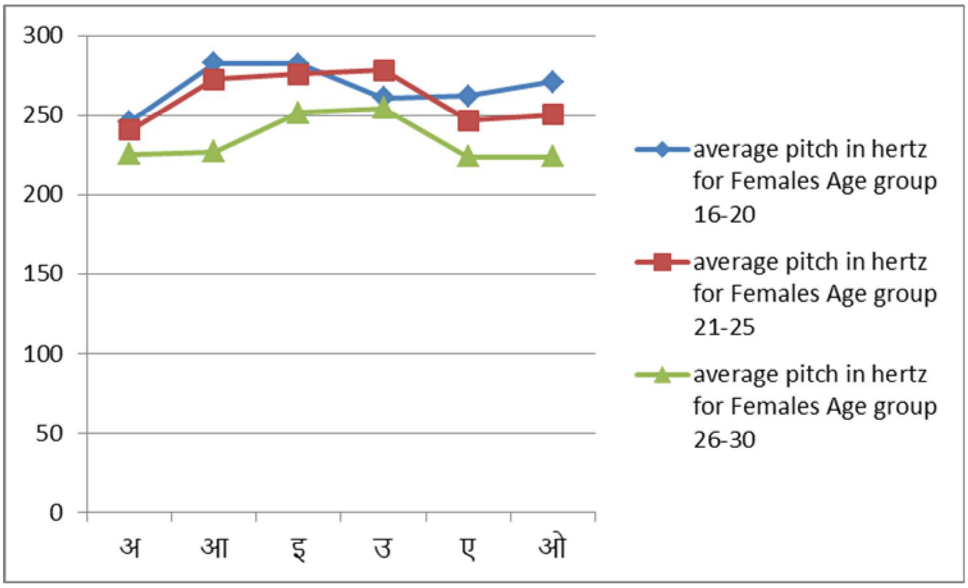

Figure 20: Differences in averages pitch of Females among the given age groups from Table 21:

Note: The values on the Y-axis on the graphs represent Frequency values in Hertz and X- axis represents vowels.

2.4 Results

For each particular vowel separately, we have calculated the average formants (F1, F2, F3) of all 60 speakers (10 males and 10 females) in each of the three groups. Table 2 is for F1 in age group 16-20, Table 3 for F1 in age group 21-25, and Table 4 for F1 in age group 26-30. Similarly Table 7, 8, 9 are tables for F2 for the three age groups and Table 12, 13, 14 are for F3 in the three age groups. There corresponding graphs are drawn in Figures 1, 2, 3, 6, 7, 8, 11, 12, 13. From the graph we observed that there are sufficient differences in Male Female average Formants in each of the groups for all the three formants.

In Tables 5, 10, 15, we have compared the average formants of each vowel for Males among the three age groups and in Tables 6, 11, 16 we have compared the average formants of each vowels for Females among the three age groups to estimate the age. Their respective graphs were drawn and from the graphs we analysed that there is very minor differences in average formants among the age groups for both male and female.

In Tables 17, 18, 19 we represented the average pitch for each of the vowel for the three age groups and their respective graphs were drawn. From the graph we observed sufficient difference of average pitch between male and female in all the three groups.

In Tables 20 and 21 we compared the differences in average pitch for all the three male and female groups separately to estimate the age, their respective graphs were drawn and from the graphs we analysed that there is minor differences in average pitch for the speakers of different age groups for both male and female.

So, according to our observation both Formants and Pitch may be considered to identify gender, for a particular speech of a particular language. However we cannot estimate the age of the speaker using the Formant and Pitch of the Bodo vowel.

CONCLUSION

This work is focused on age estimation and gender identification using acoustic features of speech signals. The acoustic features pitch, F1, F2, F3, are evaluated. From the experiment, we observed that pitch provides more accuracy to identify gender than other features. In this experiment, we observed that we may use the pitch and formants of particular speech to identify gender among similar age group. But for age calculation, we could not found any unique features from pitch and formants. We may consider some other features to determine age.

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POLITICS OF DELIMITATION OVER DIFFERENT COMMUNITIES IN MANIPUR

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ABSTRACT
The Delimitation Commission in India is a high power body whose order has the force of law and cannot be called in question before any court. In the context of our country, delimitation is in the context of electoral boundaries. Art 82 of the Constitution readjustment after each census, makes provision for delimitation of the electoral boundaries. The state needs a sustainable population policy immediately. Politics of delimitation over different communities in Manipur are two sections of the people such as, favorable and unfavorable groups of people.

Keywords: Census, delimitation commission, electoral boundaries, sustainable population policy

INTRODUCTION
Delimitation literally means the act or process of fixing limits or boundaries of territorial constituencies in a country or a province having a legislature body which is a constitutional process. Such a body is known as Delimitation Commission or a Boundary Commission. The main task of the Commission is redrawing the boundaries of the various Assembly and Lok Sabha Constituencies based on a recent census. The number of SC and ST seats in a state are changed in accordance with the census. The present delimitation of constituencies has been done on the basis of 2001 census under the provisions of Delimitation Act, 2002. The Commission is a powerful independent body of whose order cannot be challenged in any Court of Law. The Oxford Dictionary defines delimit as determination of limits or boundaries. Delimitation as its derivative is used to mean the exercise of redrawing of boundaries. It may be in the areas of boundaries of domestic national and international. In the context of our country, delimitation is in the context of electoral boundaries. Art 82 of the Constitution readjustment after each census makes provision for delimitation of the electoral boundaries. In other words, it is the process of allocation of number of seats and their demarcation into territories. Under Art 82, the Parliament by law enacts a Delimitation Act after every census. Thereafter the Central Government constitutes a Delimitation Commission. This Commission is charged with the responsibility of demarcating the boundaries of the Parliamentary Constituencies as per provisions of the Delimitation Act. In the past, four such Delimitation Commissions had been set up four times in the past. There were in 1952, 1963, 1973 and 2002, under Delimitation Commission acts of 1952, 1962, 1972 and 2002. But the four states including Manipur could not be done timely in 2002 due to the law and order situation. As we are aware, delimitation is the act of redrawing boundaries of Lok Sabha and State Assembly seats to represent, to translate the inevitable changes in population of the constituencies. The underlying philosophy is simple as the years go by, the populations of the state and therefore of the constituencies, be the Assembly or Parliamentary change. In the process of delimitation exercise, an exercise is undertaken to firm up the changes in the total number of seats based on the rise in population. The sole objective is very precise, ideal and logical. It is to provide equal representation to equal segments of a population. Changes in population are a regular phenomenon. These changes in size of population need to be correspondingly acknowledged in that they are kept in view to provide equal representation to equal segments of population. Thus the government of India is loaded with the onerous responsibility of redrawing boundaries of Lok Sabha and state Assembly seats to represent changes in population. Still another reason is the recognition of the fact that the number of seats allocated to different states in Lok Sabha and the total number of seats in a Legislative Assembly may also change. These changes are to be based on the actual change in population over the decades, to ensure commensurate representation to segments of population. The immediate concern is thus the change in population, say of the district or the sub-division of a particular state. The principal basis for allocation or fixing of seats is population of the state or the unit. The division of constituencies in each state is to be readjusted on the basis of the population-seat ratio. The principle governing the whole exercise may be said to be ensuring one vote and one value. There are however demands from sections of the society, more from political organizations, civil society organizations etc., to defer the delimitation operations. The main grouse of the demand opposing the exercise is based on the consideration that the 2011 census data is also

erroneous. The principal reason is abnormal population growth in some of the districts, sub-divisions in the hill areas. We can examine how far this demand of erroneous data is substantiated. In this case the delimitation is forcibly carried based on flow-filled 2001 census which is very old census there might be ill will amongst the valley and hill people.

STUDY AND OBSERVATION

In order to study the pros and cons of the 4th Delimitation, Manipur needs a detailed appraisal on the population profile of the state, Manipur. In this regard, due to a brief district-wise population profile of Manipur for the census years 1991 and 2001 including adjusted population of Mao-Maram, Paomata and Purul as including controversial adjusted population of hill districts Manipur can change the structure of the Manipur Assembly seats are as shown below:

As per the Provisional Census of 2001 the allotment of Assembly seats should be:			
Sl. No.	**District**	**Existing No of Seats**	**Provisional Census**
1	Imphal East	11	10(-1)
2	Imphal West	13	12(-1)
3	Thoubal	10	10
4	Bishnupur	6	5(-1)
5	Churachandpur	6	6
6	Senapati	6	7(+1)
7	Ukhrul	3	4(+1)
8	Tamenglong	3	3
9	Chandel	2	3(+1)
	Total	60	60

It reveals that according to census of 2001 report we came to know that the increasing 60 Assembly segments for the state, Manipur the delimitation process planned to change 40+20 Assembly segments to 37+23 Assembly segments respectively so that there are two opinions regarding this matter, one was favourable, another was unfavourable groups of people. Hill people are belonging to the favourable group because the three seats will rise up however valley people are to the unfavourable groups of people because three seats will be reduced. Personal interview with O. Biren former Director of Economics and Statistics Department Government of Manipur he expressed that conducting delimitation based on 2021 census without affecting the present Manipur Assembly and Parliamentary Constituency structures would be the most ideal way. The present Manipur Assembly and Parliamentary Constituency structures are based on the 1971 census and the Centre is now pushing for a delimitation based on the 2001 census. It may be noted that the Centre had formed Delimitation Commission to conduct delimitation for two Union Territories and four North-East States including Manipur. Stating that a fresh delimitation should wait till the 2021 census is conducted, he stressed that the 2001 census had courted many controversies. The State population based on 1991 census was 18.37 lakhs while 2001 census recorded 22.93 lakhs. In a span of 10 years, some sub-divisions, particularly Mao-Maram in Senapati district recorded as much as 143 percent increase in population. Paomata subdivision in the district was divided into two as Paomata and Purul in 2001. The two subdivisions such as Paomata and Purul recorded an increase of 147 percent while Chandel district's Chakpikarong subdivision recorded 118 percent increase at the end of 2001 census, he added. An increase of over 100 percent population is impossible and accordingly the Registrar General of India had deflated the population size of Mao-Maram, Purul and Paomata subdivisions. The Delimitation Commission in 2003-2004 was waiting for 2001 census report to conduct fresh delimitation based on the census, when the Manipur Pradesh Congress Committee approached the Gauhati High Court to stop the delimitation based on the controversial census of 2001. The Court had noted that census falls under the Union List and it can't be conducted again. However, the Court ordered a household demographic survey in the three sub-divisions such as Mao-Maram, Paomata and Purul. Following the order of the Court, the State prepared for household survey in three subdivisions of Senapati district and one sub-division Chakpikarong of Chandel district. Unfortunately, the survey was never conducted, he added. The former Director of Economics and Statistics further pointed out that the then Delimitation Committee in 2008 had kept the delimitation of Assam, Arunachal Pradesh and Nagaland on hold till 2026. If delimitation is conducted based on 2001 census, the valley would lose three Assembly Constituency seats while hills will gain three seats as per proportionate allocation of seats to population size of each district. Under this unfavourable condition, the representatives of 10 political parties of Manipur filed a case in the High Court with the latter ordering for rectifying the wrong census data of several subdivisions of hill areas, he added. He recalled that five associate members for the delimitation commission have been selected from among members of the Manipur Legislative Assembly to start the delimitation process. The delimitation process will be based on census reports the government needs to conduct it on correct data. According to Delimitation Act 2002, the dissolved assembly segments, if any, should be readjusted to a nearest one. But the proposed delimitation showed formation of new assembly segments in the valley areas which are in complete violation of the Act. Leihou Khunai Kanba Luptin based on valley CSOs demanded to draw attention of government to stop delimitation process of Manipur for a while that continuing delimitation process of the state would be akin to inviting the public mob to launch a mass movement. The delimitation process for some states including Manipur was put on hold due to certain lapses in documentation and procedures. However, the incumbent President of India issued a gazette notification to conduct delimitation for the remaining states followed by appointment of five MLAs and two MPs as members of the delimitation committee. Highlighting their disapproval to conduct delimitation in the state, it is based on the wrong data of 2001 census and pointed out that there was minuscule rise of 15-20 per cent population in the densely populated Imphal East and Imphal West districts while certain sparsely populated hill areas had an upsurge of 41-169 per cent of the population in the said census. On July 4, 2003 Manipur government had taken a cabinet decision and ordered conduct of re-verification of the 2001 census report for some Hill Sub-division and also a committee was formed to investigate it. The report of the committee has disclosed that the increase in population in some of the hill areas is abnormal. As regard the state government is requested to conduct delimitation based on Aadhaar linked census report if the government felt the need to conduct delimitation of Manipur immediately. There is a huge difference between the number of Aadhaar card holders and 2001 census data that delimitation based on the wrong census data could not be accepted. Again Kangleipak Women Welfare Association, Manipur has vehemently opposed the delimitation process to be conducted based on wrong population data. Conducting delimitation based on wrong data and taking political advantage by dividing into sections and communities will hamper in the development of the land in future. The enemy of the land has been trying to divide the collective communities by giving some political and economic advantage among the indigenous communities of the land will become extinct if all the communities fail to unite and understand each other. The geographical structure of the land testifies that the hills and the valley cannot be separated. Observing that the sudden upsurge of population in some subdivision of hill districts is impossible so the government is requested to find out the correct data and rectify it at the earlier.

IMPORTANCE OF THE STUDY

Under Article 82 of the Constitution, the parliament by law enacts a Delimitation Act after every Census because of the redistribution and is used to prevent imbalance of population across districts in respect of elections. As regard the main task of the Commission is redrawing the boundaries of the various Assembly and Lok Sabha Constituencies based on a recent census.

METHODOLOGY

The work is based on secondary sources largely and it also involved the personal interview of many personalities of different communities, the selected authors on the daily newspaper etc.

VIEWS OF DIFFERENT COMMUNITIES

According to the views of the valley based CSOs has raised strong objections against the delimitation exercise in the state based on the census data of 2001. The exercise has the potential to disintegrate the state and its unity. It is apparent that the census data of 2001 has flaws and carrying out the operation based on the flawed figures is a violation of the democratic process. As such, a true census data is very much needed before carrying out the operation. Some hill districts of the state recorded abnormal decadal population growth in 2001 census, which is impossible in any part of the world. Till 1971, the decadal population growth in Ukhrul and Senapati district was at an average of around 30 per cent. However, the growth rates in these two districts were almost 100 per cent and in some sub-divisions, the decadal growth rate exceeded 100 per cent. Chandel district also witnessed 63 per cent decadal growth rate in the year and several ghost villages and households were created only on paper. The census operation itself was questionable since such population growth shows the abnormality in its own. An enquiry by a committee can easily find out the reason behind such abnormal growth. There are groups which have certain political agenda making some hill areas lawless lands. These forces are behind the abnormal population growth and the central government must have knowledge of the situation. The last delimitation in the state was carried out in 1972 based on the 1971 census data. Carrying out delimitation based on 2001 census data will result in valley areas losing three assembly constituencies without any valid reason and taking reference of 2011 census data will increase the problem again. It then demanded to reassess the census data from 1951 in order to carry out the delimitation exercise. Illegal immigrants should be identified first and state boundary as well as district boundaries should be clearly demarcated before the exercise. At the same time, census operation should also incorporate biometric data for the sake of collective physical evidence of the population. All the villages and households in the census data should be recorded in the register with Global Positioning System data to prevent any malpractice in the enumeration process, the statement added. It further stated that the state government, opposition parties, all political parties and CSOs in the state should join hands to ensure the delimitation process follows proper records. The government must take proactive role in this regard for the sake of the state and its integrity. Personal interview with Janghaolung Haokip and CSos based on hill communities they asserted that they are strongly supported the delimitation which are taken up by the central government at present. They further stated that the news of Delimitation rings aloud like church bells on Sundays in a Christian neighborhood; it has become the hot-topic in every tea-hotel around the state. There are the younger group of people who basically have heard the term for the very first time and are curious about the hype it creates, the older group of people who are ready to brace themselves, the intellectuals and academicians who sees an imminent threat to the already threatened peace and harmony of the state, and finally the politicians who sees but opportunities that will come along a great by hook and by crook fight ahead. Delimitation, in its simplest terms, is the process of fixing limits or boundaries of territorial constituencies in a country or a province with a legislative body. It seeks to maintain equitable representation by checking over-representation and under-representation of people due to distortions in population size, and thereby ensures equal representation for the people. On the other hand, with the constitution of the Delimitation Commission under the Delimitation Act of 2002, Manipur is likely to struggle through another wave of uncertainty amidst the COVID-19 pandemic due to its socio-cultural and ethnic diversity. Manipur therefore needs to yet again brace itself and boldly face its challenges. A critical question thus arises, what would this redrawing bring to our tiny beautiful land.It is for everybody to answer these critical questions to save our tiny state from another possible wave of terror and unrest amidst the already deadly pandemic. It is more for the decision makers, people in positions and power to decide the fate of the state as it is preparing to go through a major change that will be in force for another 30 long years. Meanwhile, it is also to be carefully understood that the Delimitation Commission in India is a high-power body whose orders have the force of law and cannot be called in question before any court and therefore unalterable once settled. It is therefore all the more important for the people and the leaders as well to rightly discern in the true spirit of democracy the future of our state. On the other hand, the politicians also have to let go any scheme for selfish political gains, and neither the social nor the regional groups should make any assertions that could contravene with the others. These are important to counter as a failure will be a threat to peace and tranquility of the state. Important now, and more than the voices of our elected representatives is the voice of the people. It is then very much necessary for us to raise the right voices amidst the challenges that surrounds, because, diversity, as we have, as beautiful as it can be, can also be as complex and as destructive. This diversity has to be explored and not exploited for the beauty to remain. It is an earnest appeal therefore, to join hands, to raise our voices, to come together and be responsible, and to contribute, each what we can, for the good of our state. We ought to stand united for peace and prosperity for all, and for our beautiful state.

SUGGESTION AND CONCLUSION

There is no issue in increasing number of Assembly Constituencies in the thee hill districts but reducing the same seats in the valley districts is not recommendable so that appealing the delimitation committee of the state to take into account aspiration and interest of all section of the society otherwise it is a high

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Vol.40-Issue.89-March, 2020

time for the people to join hands together to launch a mass movement against the ongoing delimitation based on 2001 census. The delimitation for the state could only be conducted after rectifying the wrong data and after conducting the 2021 census verified through Aadhaar Card or wait upto 2031 census according to the verdict of court but not the census of 2001 report which is too old and its report is fragmented and incorrect one. It included a huge number of immigrants that should be excluded first before delimitation. In conclusion the state needs a sustainable population policy immediately otherwise it might be obsolete. Need of the hour is to challenge and face the impugned through court of law in particular and to revive Manipur State Population Commission in general at the earliest.

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SELECTION OF OPEN SOURCE E-LEARNING PLATFORM SUITABLE FOR OPEN AND DISTANCE LEARNING USING ANALYTICAL HIERARCHY PROCESS

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ABSTRACT

At present time, Open and Distance learning is a most emerging and fast growing segment in education sector because of its flexible learning opportunity. In North East Indian Region for open and distance learning, there is only one state open University, nine regional center of IGNOU and a number of dual mode university. These open and distance learning institutions has been running different master degree programs, degree programs, UG and PG diploma programs in the region. But all of these institutions are running just by distributing Self learning materials (SLM) to their students that are prepared by their experts. There is a enough space and scope for these open and distance learning institutions to improve their teaching and learning services by deploying at least one open source E-learning platform in their institutions. E-learning platform improve the teaching learning process as well as reduce the cost of the students and the institutions and also provides a constructivist learning environment. It can act the most important actor for open and distance learning institutions to brings together both students and teachers for learning within a domain. So there is a need for evaluation and comparison of some most popular open source platform which is more effective and efficient for open and distance learning institutions in this region. The main aim of this study is to choose the suitable open source E-learning platform for open and distance learning. We have used Analytical Hierarchy Process (AHP) method on some selected criteria which are important for open and distance learning. After this research we strongly recommended that Moodle Platform as the best choice for open and distance learning in general and for North-East Indian open and distance learning institutions in particular

Keywords: E-learning Platform, Open and distance learning, Analytical Hierarchy Process, Criteria

1. INTRODUCTION

E-learning platform is an important resource for generally higher educational institutions and particularly for open and distance learning institutions in most of the developed countries across the globe that enhances the students learning progress. An E-learning Platform is an application program that integrates variety of communication tools, Management tools, Production tools, Administrative tools, Course delivery tools, Content development tools, Security tools etc. which technologically helps students teachers in their teaching and learning process either the educational process completely remote, online classroom or mixed nature and combined the both modes in different proportion [1]. It enables a learner to learn at any time and from anywhere. It o▪ ers the ability to share the material related to teaching and learning process in all kinds of formats such as PDF, Virtual learning environment (VLE) i.e. conducting live online classroom and communicating with instructors through both Synchronous and Asynchronous tools [2]. With the fastest growth of information and Communication technology (ICT) and the volume of the internet technology, the new E-learning platform has also been developed with new features to facilitates students and teachers in their teaching and learning process.

A proper comparison and evaluation of E-learning platform is an extremely complex and time consuming process. For open and distance learning institutions, to create more flexibility and control over their teaching and learning process, a proper E-learning environment should be created by selecting and deploying any one most appropriate E-learning platform to fit their learning process. E-learning platform is more effective system for open and distance learning institutions as it not only eliminates the distances but also improve the productivity of the students as well as the institutions as a whole. The institutions considering the use of E-learning platform should know the effectiveness of platform available in the market and their strength and their weakness. In all open source platform, the source code is readily available for public for improvement by modification and extension according to their needs. So by adopting and using the E-learning platform, the open and distance learning institutions can upgrade their teaching-learning capacities.

An E-learning platform has offer an overwhelming amount of tools and features to facilitate the teaching and learning process. In India, most of the educational institutions are using these according to their specific requirements. Now, there are so many open source E-learning platform in today's software market having its own strength and weakness. This study will helps particularly North-East Indian Open and distance learning institutions, who are offering education in open and distance learning mode whether it is open University and dual mode university to decide which Open source E-learning platform will be beneficial and flexible for their institutions to facilitate their teaching and learning process. We choose open source E-learning platform because of its greater flexibility compared to commercial software. Since the coding of the system is free, so it can be easily modified according to our requirements to improve the performance of the system

2. MATERIALS AND METHODS

Through literature review [3-9], 15 current and active open source E-learning platforms have been subjected that are using different Higher Educational institutions across the world to facilitate their teaching and learning process. Among these 5 most demanded and highly frequency reference E-learning platform with latest version were chosen for comparison and evaluation . Each of these platform with latest stable version have been installed into local system and test the performance of the functions and tools embedded into each system. Emmanouilidis et, al. (2008), stated that, the evaluation and comparison of E-learning Platform is just a snapshot or its status for a specific time when it was evaluated because after every release of its latest version comes with incorporating some new features that gaining considerable prominence and will be awarded more points [10].

2.1. AHP (Analytical Hierarchy Process)

AHP is a methodology, originally developed by Thomas L. Satty in 1980 and basically used to solve Multi-criteria decision making (MCDM) problem. In this method the alternatives are evaluated with respect to the relative importance of multiple criteria [11][12]. For a given set of 'n' alternatives $X = \{x_1, x_2, \dots\dots\dots. x_n\}$, the decision maker assigns a weight vector $W = \{w_1, w_2, \dots\dots\dots. w_n\}^T$. The greater w_i means the better alternatives x_i $(i = 1,2, \dots\dots\dots. n)$ relative to the other alternatives i.e. $w_i > w_j$ means x_i is better alternatives than x_j. The Algorithm involved in this method are as follows:

Step 1: Construct a structural Hierarchy

In construction of hierarchical structure, the main objective/goal, Criteria's, sub-criteria's and alternatives are identified. All the elements involved in this method are arranged in a level tree structure where objective or goal at the top level, the criteria and sub-criteria are at intermediate level and Alternatives are at the last level.

Step 2: Construction of Comparative Judgment

Once a hierarchical structure is constructed the next step is to construction a pair-wise matrix for each criteria's. The aim of construction of pair-wise matrix is to determine the priorities of all the variables at each level of the hierarchical structure. A pair-wise comparison matrix say A of 'n' criteria is a square matrix of order n $i.e.$ $A = [a_{ij}]_{n\times n} = \begin{bmatrix} a_{11} & a_{12} & \dots\dots\dots & a_{1n} \\ a_{21} & a_{22} & \dots\dots\dots & a_{2n} \\ \vdots & \vdots & \dots & \vdots \\ a_{n1} & a_{n2} & \dots & a_{nn} \end{bmatrix}$ where the cell entry a_{ij} represents the importance of i^{th} criteria relative to the j^{th} criteria with the following defined values

$$[a_{ij}] = \begin{cases} > 1 & if\ i^{th}\ criteria\ is\ more\ important\ than\ j^{th}\ criteria \\ = 1 & if\ i^{th}\ criteria\ is\ equal\ important\ than\ j^{th}\ criteria \\ < 1 & if\ i^{th}\ criteria\ is\ less\ important\ than\ j^{th}\ criteria \end{cases}$$

The cell value of the pair-wise matrix represents the relative importance between two criteria and is measured according to a numerical scale value from 1 to 9 and its interpretation is shown in table 1.

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Vol.40-Issue.89-March, 2020

Also $a_{ji} = \frac{1}{a_{ij}} \quad \forall\, i, j = 1,2, \dots \dots \dots \dots \dots n$

More precisely, each cell entry of a pair-wise matrix exactly represents the ratio between the weight-age or priorities of a criteria with respect to another criteria, so A can also be expressed in the following form

$$A = \begin{bmatrix} \frac{w_1}{w_1} & \frac{w_1}{w_2} \dots \dots \dots \dots & \frac{w_1}{w_n} \\ \frac{w_2}{w_1} & \frac{w_2}{w_2} \dots \dots \dots \dots & \frac{w_2}{w_n} \\ \vdots & \vdots & \vdots \\ \frac{w_n}{w_1} & \frac{w_n}{w_2} \dots \dots \dots \dots & \frac{w_n}{w_n} \end{bmatrix} \quad \text{i.e. } a_{ij} \approx \frac{w_i}{w_j} \quad \forall\, i, j$$

Table 1: Pair-wise relative scale [13].

Value of cell entry $[a_{ij}]$	Interpretation
1	i^{th} *criteria is equal important than* j^{th} *criteria*
3	i^{th} *criteria is slightly important than* j^{th} *criteria*
5	i^{th} *criteria is more important than* j^{th} *criteria*
7	i^{th} *criteria is strongly more important than* j^{th} *criteria*
9	i^{th} *criteria is absolutely more important than* j^{th} *criteria*
2,4,6,8	*intermediate values*
Reciprocals	*Inverse comparison*

In a decision making, if a user assume that 2nd criteria is slightly more important than the 3rd criteria to make a decision, then set the cell entry $a_{23} = 3$ in the pair-wise comparison matrix A. If the opposite event occur then $a_{32} = \frac{1}{3}$. If there are 'n' criteria in a decision making problem then there are altogether n_{c_2} number of Judgments' are required for every pair-wise comparison of the problem.

Step 3: Priorities (weight) determination through normalization

After having a pair-wise matrix, normalize the matrix to give the relative weight to each criteria. The normalization is made by dividing each element of the matrix with the sum of its column, then the sum of each column will be 1. Thus the following normalized pair-wise matrix X will be obtained.

$$X = \begin{bmatrix} \frac{a_{11}}{\sum_{i=1}^{n} a_{i1}} & \frac{a_{12}}{\sum_{i=1}^{n} a_{i2}} & \cdots & \frac{a_{1n}}{\sum_{i=1}^{n} a_{in}} \\ \frac{a_{21}}{\sum_{i=1}^{n} a_{i1}} & \frac{a_{22}}{\sum_{i=1}^{n} a_{i2}} & \cdots & \frac{a_{2n}}{\sum_{i=1}^{n} a_{in}} \\ \vdots & \vdots & & \vdots \\ \frac{a_{n1}}{\sum_{i=1}^{n} a_{i1}} & \frac{a_{n2}}{\sum_{i=1}^{n} a_{i2}} & \cdots & \frac{a_{nn}}{\sum_{i=1}^{n} a_{in}} \end{bmatrix}$$

Step 4: Synthesis of Priorities (weights)

Using the matrix X, calculate the priority vector or Eigen vector (W) to determine the contribution of each criteria to the organizational goal. That means this Eigen vector represents the relative weight among each criteria. The priority vector can be obtained by averaging elements in each row of matrix X.

$$W = \frac{1}{n}\begin{bmatrix} \frac{a_{11}}{\sum_{i=1}^{n} a_{i1}} + \frac{a_{12}}{\sum_{i=1}^{n} a_{i2}} + \cdots + \frac{a_{1n}}{\sum_{i=1}^{n} a_{in}} \\ \frac{a_{21}}{\sum_{i=1}^{n} a_{i1}} + \frac{a_{22}}{\sum_{i=1}^{n} a_{i2}} + \cdots + \frac{a_{2n}}{\sum_{i=1}^{n} a_{in}} \\ \vdots \\ \frac{a_{n1}}{\sum_{i=1}^{n} a_{i1}} + \frac{a_{n2}}{\sum_{i=1}^{n} a_{i2}} + \cdots + \frac{a_{nn}}{\sum_{i=1}^{n} a_{in}} \end{bmatrix} = \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix}$$

Step 5: Perform the consistency verification of the Judgments'

Since the pair-wise matrix are built on the basis of personal or subjective judgments, so there is some possibility of the occurrence of inconsistency. To ensure the personal judgments consistency, consistency verification are to be performed. To do this follows the following steps:

- Find the weight sum vector D, by multiply initial pair-wise matrix A with column matrix (priority vector) W

$$D = \begin{bmatrix} a_{11} & a_{12} & a_{1n} \\ a_{21} & a_{22} & a_{2n} \\ \vdots & \vdots & \vdots \\ a_{31} & a_{32} & a_{nn} \end{bmatrix} \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix} = \begin{bmatrix} a_{11}w_1 + a_{12}w_2 + \cdots + a_{13}w_n \\ a_{21}w_1 + a_{22}w_2 + \cdots + a_{2n}w_n \\ \vdots \\ a_{n1}w_1 + a_{n2}w_2 + \cdots + a_{nn}w_n \end{bmatrix} = \begin{bmatrix} D_1 \\ D_2 \\ \vdots \\ D_n \end{bmatrix}$$

- Calculate the Eigen value λ_{max} by using the formula below:

$$\lambda_{max} = \frac{\frac{D_1}{W_1} + \frac{D_2}{W_2} + \cdots + \frac{D_n}{W_n}}{n}$$

- Determine Consistency Index (CI) by using the formula below:

$$CI = \frac{\lambda_{max} - n}{n - 1}$$

- Next to check the judgments' consistency, Calculate the Consistency Ratio (CR) with the help of the formula

$$CR = \frac{CI}{RI}$$

Where the values of RI or Random Index depends on the number of platform being compared and is given in table 2 below

Table 2: Random Index (RI) based on matrix size

No. of Criteria	3	4	5	6	7	8	9	10
RI	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.51

Source: Satty (2008)

For the consistency of the judgments' of decision makers for a pair wise comparison matrix, the CR values varies according to the size of the matrix. For a 3×3 matrix $CR < 0.05$, for a 4×4 matrix $CR < 0.05$, and for matrices of order more than 4, $CR < 0.1$ (Satty, 2007). If CR is more than above specified value then the judgments' of decision makers are inconsistent and judgments should be reviewed and improved.

Step 6. Ranking of alternatives

Steps 2 - 5 are performed to find the priority vector S for 'm' alternatives against each criteria. The AHP obtain a vector V by multiplying matrix S with W (priority vector of criteria's).

$V = [S]_{m\times n}[W]_{n\times 1}$, where the entry v_i of V represents the scores assigns by the AHP to the i^{th} $(i = 1,2, \ldots\ldots m)$ alternatives. Finally alternatives ranking is accomplished by ordering the scores.

2.2. E-learning Platform

An E-learning Platform is an application program that integrates variety of communication tools, Management tools, Production tools, Administrative tools, Course delivery tools, Content development tools, Security tools etc. which technologically helps students teachers in their teaching and learning process either the educational process completely remote, online classroom or mixed nature and combined the both modes in different proportion. It enables a learner to learn at any time and from anywhere. It o▪ ers the ability to share the material related to teaching and learning process in all kinds of formats such as PDF, Virtual learning environment (VLE) i.e. conducting live online classroom and communicating with instructors through both Synchronous and Asynchronous tools. With the fastest growth of information and Communication technology(ICT) and the volume of the internet technology, the new E-learning platform has also been developed with new features to facilitates students and teachers in their teaching and learning process. More and more universities use E-learning platform to improve access to ICT, to provide learning opportunities in school or in lifelong learning environment (Tache, 2008). The core functions of an E-learning Platform are- Authentication; Generating Course Content; Viewing Course Content; Different Audio and Video media; Carrying out activities such as task, group work; Report of the activities undertaken by the students; Evaluation tools; Different Course delivery tools; Course management tools etc.

Depending on the functionalities, an e▪ ective E-learning platform must be able to integrate the three components namely – Learning Management System (LMS), Learning Content Management System (LCMS) and the Virtual Learning Environment (VLE). The LMS module provides an instructor with a way to create and deliver course content, monitoring student participation and keep track students' performance and progress. It also provides students with the ability to use interactive features such as video-conferencing, Discussion forum etc. But a LCMS manage the content of the courses. course content is stored as learning object in a learning object repository database. Virtual Learning Environment technology based environment which is moderately opening systems, allowing communication and information sharing with other participants and instructors and provide access to a wide range of assets and resources [14]. An E-learning platform that embedded all these three system are considered as an appropriate one to support teaching and learning process in a higher educational institution.

3. Application of AHP Method

Before applying the AHP methods to find the suitable E-learning platform for open and distance learning, a set of phases have to be followed [13]. These are

- ✓ Define the evaluative criteria and sub-criteria's with their physical meaning to select the best E-learning platform.
- ✓ Define the E-learning platform shortlist
- ✓ Established the hierarchical structure of the model
- ✓ Application of AHP model

Phase I: E-learning Platform Selection Criteria

The selection of criteria for the adoption of E-learning platform depends on for what purpose it was adopted. For success of adoption, the selected criteria should fit the purpose. For adoption of E-learning Platform in academic purposes, Moyle (2007) suggested the following points to be remember at the time of criteria selection [15]

- ✓ Known Requirements: The platform should meet both academic and administrative requirements for whole University community
- ✓ Unknown Requirements: The platform should be flexible in-terms of adoption to the University's future needs.
- ✓ Implementability: The platform should be implemented by University community with ease of use or learning
- ✓ Portability: The platform should have the capacity to transferred from one platform into another.

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Vol.40-Issue.89-March, 2020

In keeping mind the suggestion of Moyle, we have used the followings main criteria of selecting best E-learning platform that are efficient and effective for open and distance learning

i. Communication (C_1)
ii. Course development (C_2)
iii. Productivity (C_3)
iv. Usability (C_4)
v. Security (C_5)
vi. Portability (C_6)
vii. Activity Tracking (C_7)

Each of the above criteria are decomposed into several sub-criteria whose weightage are not calculated independently but their existence and performance of any platform contributed the weight of that criteria. Table 3 shows the decomposition of criteria into sub-criteria's

Table 3: decomposition of criteria into sub-criteria's

Criterion	Sub-criteria
Communication	• Real time chatting • Audio-Video Conference • Whiteboard • Discussion Forum • File Sharing • Assignment Upload • Blogs • Wikis
Course development	• Course Creation/Deletion • Upload/Download Resources • Course Templates • Course Indexing • Quiz Import • Online Quiz Editor • Multimedia Available
Productivity	• Digital Library • Multi Language support • Instructor Scheduling • Virtual Classroom • Academic Calendar • Mobile Compatibility • Glossary
Usability	• User Interface • Error Reporting

	• Efficiency • User Type • Satisfaction
Security	• Authentication • Authorization • Data Encryption • Validation of Input
Portability	• E-learning Standard • RDBMS Standard • OS Compatibility
Activity Tracking	• Activity tracking during learning process • Statistical report of students progress • Login Analysis • Time Analysis • Participants Administration

PHYSICAL SIGNIFICANCE OF ALL CRITERIA

Communication ($C1$) tools are used to evaluate how many tools and services are available in each platform through which the interaction is possible among students-students, students-teachers and teachers-teachers. Communication tools are classified broadly two categories namely Synchronous and Asynchronous [16].

Course development tools or services are responsible for organizing different course materials, course creation and deletion. Teachers can upload or download different study related materials including HTML pages, flash movies, images, PDF files, MS word files etc. Even the platform provides links between content pages and different student's tools. Also provides different course templates.

Usability means the efficiency, convenient and easiness of the platform to use for learning. It also includes the ability of error reporting, messaging etc[17].

Portability means the capability of the platform to be transformed from one environment to another. It includes the breadth of RDBMS support, compatibility of different Operating System etc [18].

Security means the ability of a platform to safeguard one's personal data and safeguard communication attack and danger on a user's computers as well as user's level permission [16].

Activity Tracking tools of the E-learning platform are used to keep track of the learning process of the students [19].

Phase II: E-learning platform shortlist

As mentioned in Methods, Through literature review, 15 current and active open source E-learning platforms have been subjected that are using different Higher Educational institutions across the world to facilitate their teaching and learning process. Among these 5 most demanded and highly frequency reference E-learning platform with latest version were chosen for comparison and evaluation These are Moodle 3.8, dot LRN 2.5, eFront 5.2, Sakai 19.3 and ATutor 2.2.4.

Phase III: Established the hierarchical structure of the model

In construction of hierarchical structure of AHP model, the main objective/goal, Criteria's, sub-criteria's and alternatives are arranged in a level tree structure. The objective or goal are at the top level, the criteria and sub-criteria are at intermediate level and Alternatives are represented at the last level of the tree (in fig. 1)

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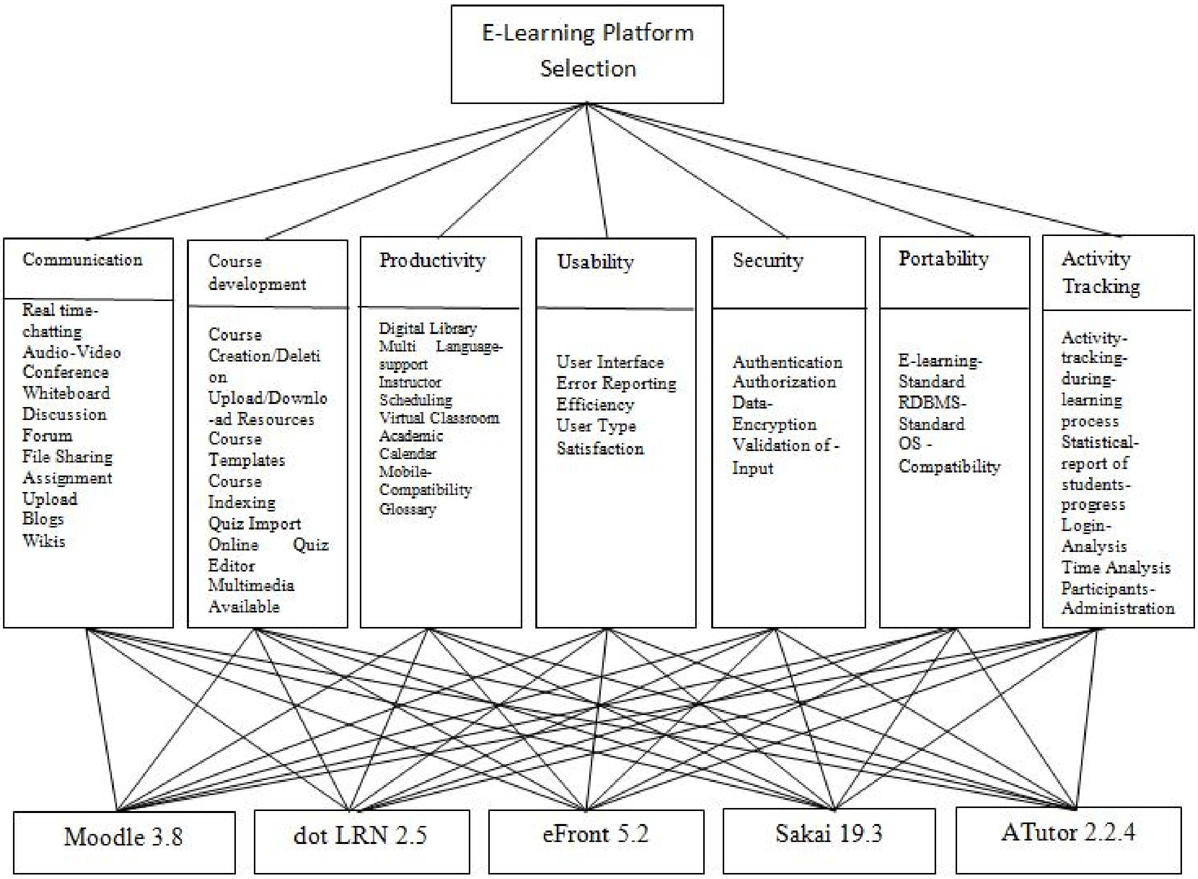

Fig. AHP Model

Phase VI: Application of AHP Model

Each criteria are evaluated by comparing to others criterion. So we prepare a pair-wise performance (comparison) matrix for each criterion. For seven criteria, we draw a square matrix $[a_{ij}]_{7\times7}$ of order seven and the cell value $(i,j)$are determined by Satty's scale. According to AHP rule the cell value (j,i) is assigns with the inverse value of (i,j). After putting the cell value, we take column-wise sum (table 4)

Table 4: Pair-wise performance Matrix for criteria and column-wise Sum

Criteria	C_1	C_2	C_3	C_4	C_5	C_6	C_7
C_1	1	1	5	1	0.33	3	3
C_2	1	1	5	1	0.33	3	3
C_3	0.2	0.2	1	0.2	0.143	0.33	0.33
C_4	1	1	5	1	0.33	3	3
C_5	3	3	7	3	1	5	5
C_6	0.33	0.33	3	0.33	0.2	1	1
C_7	0.33	0.33	3	0.33	0.2	1	1
Col. Sum	6.86	6.86	29.00	6.86	2.533	16.33	16.33

Step : To obtain the priority vector (criterion weight), we follow the following procedure (as in step 3 of AHP method)

Once the Pair-wise performance matrix is obtained in table 4, we have to find the sum of each column. Then we normalize the matrix by dividing each element of the column with their respective column sum and finally calculate the average of each row (table 5)

Table 5: Priority Vector of criteria

Criteria	C_1	C_2	C_3	C_4	C_5	C_6	C_7	Priority Vector
C_1	0.14577	0.14577	0.17241	0.14577	0.13028	0.18371	0.18371	0.15846
C_2	0.14577	0.14577	0.17241	0.14577	0.13028	0.18371	0.18371	0.15846
C_3	0.02915	0.02915	0.03449	0.02915	0.05645	0.02021	0.02021	0.03126
C_4	0.14577	0.14577	0.17241	0.14577	0.13028	0.18371	0.18371	0.15846
C_5	0.43732	0.43732	0.24138	0.43732	0.39478	0.30618	0.30618	0.36578
C_6	0.04810	0.04810	0.10345	0.04810	0.07895	0.06124	0.06124	0.06417
C_7	0.04810	0.04810	0.10345	0.04810	0.07895	0.06124	0.06124	0.06417

From the table 5, we see that C_1 (Security) is the most important criteria with a weight of 0.36578, then comes C_1 , C_2 and C_4 (Communication, Course Development and Usability respectively) with weight 0.15846 each. The third important criterion are C_6 and C_7 (Portability and Activity Tracking respectively) with weight 0.06417 each. The last important criteria is C_3 (Productivity) with a weight of 0.03126.

Before proceeding to the next step of AHP method, we have to check the consistency whether we put any absurd value in the comparison matrix that violets the transitive property of a relation. To do this first we find the weight sum vector by multiplying the initial pair-wise matrix with the priority vector of criteria's.

$$\begin{pmatrix} 1 & 1 & 5 & 1 & \frac{1}{3} & 3 & 3 \\ 1 & 1 & 5 & 1 & \frac{1}{3} & 3 & 3 \\ \frac{1}{5} & \frac{1}{5} & 1 & \frac{1}{5} & \frac{1}{7} & \frac{1}{3} & \frac{1}{3} \\ 1 & 1 & 5 & 1 & \frac{1}{3} & 3 & 3 \\ 3 & 3 & 7 & 3 & 1 & 5 & 5 \\ \frac{1}{3} & \frac{1}{3} & 3 & \frac{1}{3} & \frac{1}{5} & 1 & 1 \\ \frac{1}{3} & \frac{1}{3} & 3 & \frac{1}{3} & \frac{1}{5} & 1 & 1 \end{pmatrix} \begin{pmatrix} 0.15846 \\ 0.15846 \\ 0.03126 \\ 0.15846 \\ 0.36578 \\ 0.06417 \\ 0.06417 \end{pmatrix} = \begin{pmatrix} 1.13741 \\ 1.13741 \\ 0.19247 \\ 1.13741 \\ 2.65244 \\ 0.45215 \\ 0.45215 \end{pmatrix}$$

Next we have to find Eigen value (λ_{max}) , Consistency Index (CI) and Consistency Ratio (CR)

$$\lambda_{max} = \frac{\frac{1.13741}{0.15846} + \frac{1.13741}{0.15846} + \frac{0.19247}{0.03126} + \frac{1.13741}{0.15846} + \frac{2.65244}{0.36578} + \frac{0.45215}{0.06417} + \frac{0.45215}{0.06417}}{7} = 7.00488$$

$$CI = \frac{\lambda_{max} - n}{n-1} = \frac{7.00488 - 7}{7-1} = 0.00081$$

$$CR = \frac{0.00081}{1.32} = 0.00062$$

Since, $CR < 0.1$, the consistency ratio is acceptable and the system is consistent

Alternatives Weight

Now we have to prepare criteria-wise performance matrix of alternatives against each criteria. The table (6-12) shows the criteria-wise performance matrix of alternatives against each criteria and their column-wise sum.

Table 6. Communication criteria-wise performance Matrix and column-wise Sum

	Moodle	Dokeos	eFront	Sakai	ATutor
Moodle	1	7	3	3	5
Dokeos	0.143	1	0.33	0.33	0.2

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

eFront	0.33	3	1	1	1
Sakai	0.33	3	1	1	3
ATutor	0.2	5	1	0.33	1
Col. Sum	2.003	19	6.33	5.66	10.2

Table 7. Course Development criteria-wise performance Matrix and column-wise Sum

	Moodle	Dokeos	eFront	Sakai	ATutor
Moodle	1	5	3	5	3
Dokeos	0.2	1	0.33	1	0.33
eFront	0.33	3	1	3	1
Sakai	0.2	1	0.33	1	0.33
ATutor	0.33	3	1	3	1
Col. Sum	2.06	13	5.66	13	5.66

Table 8: Productivity criteria-wise performance Matrix and column-wise Sum

	Moodle	Dokeos	eFront	Sakai	ATutor
Moodle	1	5	1	1	3
Dokeos	0.2	1	0.33	0.2	0.33
eFront	1	3	1	0.33	1
Sakai	1	5	3	1	1
ATutor	0.33	3	1	1	1
Col. Sum	3.53	17	6.33	3.53	6.33

Table 9: Usability criteria-wise performance Matrix and column-wise Sum

	Moodle	Dokeos	eFront	Sakai	ATutor
Moodle	1	7	5	3	5
Dokeos	0.143	1	0.33	.2	0.33
eFront	0.2	3	1	0.33	1
Sakai	0.33	5	3	1	3
ATutor	0.2	3	1	0.33	1
Col. Sum	1.873	19	10.33	4.86	10.33

Table 10: Security criteria-wise performance Matrix and column-wise Sum

	Moodle	Dokeos	eFront	Sakai	ATutor
Moodle	1	5	7	3	7
Dokeos	0.2	1	3	0.33	3
eFront	0.143	0.33	1	0.2	1
Sakai	0.33	3	5	1	5
ATutor	0.143	0.33	1	0.2	1
Col. Sum	1.82	9.66	17	4.73	17

Table 11: Portability criteria-wise performance Matrix and column-wise Sum

	Moodle	Dokeos	eFront	Sakai	ATutor
Moodle	1	5	5	3	5
Dokeos	0.2	1	1	1	3
eFront	0.2	1	1	0.33	1
Sakai	0.33	1	1	1	3
ATutor	0.2	0.33	1	0.33	1
Col. Sum	1.93	8.33	9	5.66	13

Table 12: Activity Tracking criteria-wise performance Matrix and column-wise Sum

	Moodle	Dokeos	eFront	Sakai	ATutor
Moodle	1	1	3	1	3
Dokeos	1	1	3	1	3
eFront	0.33	0.33	1	0.33	1

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Sakai	1	1	3	1	3
ATutor	0.33	0.33	1	0.33	1
Col. Sum	3.66	3.66	11	3.66	11

Next to find the alternatives weight against each criteria, We divide all the values in the column with their respective column sum and take the row-wise average. After that we check the consistency of our Judgments' against each criteria wise performance matrix. Tables from (13-19) shows priority vector of each alternatives against every criteria.

Table 13: Communication criteria

	Moodle	Dokeos	eFront	Sakai	ATutor	Priority Vector
Moodle	0.49925	0.36842	0.47393	0.53004	0.49020	0.47237
Dokeos	0.07139	0.05263	0.05213	0.05830	0.01961	0.05081
eFront	0.16475	0.15789	0.15798	0.17668	0.09804	0.15107
Sakai	0.16475	0.15789	0.15798	0.17668	0.29412	0.19028
ATutor	0.09985	0.26316	0.15798	0.05830	0.09804	0.13547

$\lambda_{max} = 5.3266 \quad C.I = 0.0817 \quad CR = 0.0729$

Table 14: Course Development criteria

	Moodle	Dokeos	eFront	Sakai	ATutor	Priority Vector
Moodle	0.48545	0.38462	0.53004	0.38462	0.53004	0.46295
Dokeos	0.09709	0.07692	0.05830	0.07692	0.05830	0.07351
eFront	0.16019	0.23077	0.17668	0.23077	0.17668	0.19502
Sakai	0.09709	0.07692	0.05830	0.07692	0.05830	0.07351
ATutor	0.16019	0.23077	0.17668	0.23077	0.17668	0.19502

$\lambda_{max} = 5.0726 \quad C.I = 0.0181 \quad CR = 0.0162$

Table 15: Productivity criteria

	Moodle	Dokeos	eFront	Sakai	ATutor	Priority Vector
Moodle	0.28329	0.29412	0.15798	0.28329	0.47393	0.29852
Dokeos	0.05666	0.05882	0.05213	0.05666	0.05213	0.05528
eFront	0.28329	0.17647	0.15798	0.09348	0.15798	0.17584
Sakai	0.28329	0.29412	0.47393	0.28329	0.15798	0.29852
ATutor	0.09348	0.17647	0.15798	0.28329	0.15798	0.17347

$\lambda_{max} = 5.2584 \quad C.I = 0.0646 \quad CR = 0.0577$

Table 16: Usability criteria

	Moodle	Dokeos	eFront	Sakai	ATutor	Priority Vector
Moodle	0.53390	0.36842	0.48403	0.61728	0.48403	0.49753
Dokeos	0.07635	0.05363	0.03195	0.04115	0.03195	0.04701
eFront	0.10678	0.15789	0.09681	0.06790	0.09681	0.10524
Sakai	0.17619	0.26316	0.09681	0.20576	0.29042	0.18922
ATutor	0.10678	0.15789	0.29042	0.06790	0.09681	0.14396

$\lambda_{max} = 5.3189 \quad C.I = 0.0797 \quad CR = 0.07119$

Table 17: Security criteria

	Moodle	Dokeos	eFront	Sakai	ATutor	Priority Vector
Moodle	0.54945	0.51759	0.41176	0.63425	0.41176	0.50496
Dokeos	0.10989	0.10352	0.17647	0.06977	0.17647	0.12722
eFront	0.07857	0.03416	0.05882	0.04228	0.05882	0.05453
Sakai	0.18132	0.31056	0.29412	0.21142	0.29412	0.25831
ATutor	0.07857	0.03416	0.05882	0.04228	0.05882	0.05453

$\lambda_{max} = 5.2238 \quad C.I = 0.05595 \quad CR = 0.04996$

Table 18: Portability criteria

	Moodle	Dokeos	eFront	Sakai	ATutor	Priority Vector
Moodle	0.51813	0.60024	0.55556	0.53004	0.38462	0.51772
Dokeos	0.10363	0.12005	0.11111	0.17668	0.23077	0.14845

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Vol.40-Issue.89-March, 2020

eFront	0.10363	0.12005	0.11111	0.05830	0.07692	0.09400
Sakai	0.17098	0.12005	0.11111	0.17668	0.23077	0.16192
ATutor	0.10363	0.03962	0.11111	0.05830	0.07692	0.07792

$\lambda_{max} = 5.0112$ $C.I = 0.0028$ $CR = 0.0025$ Priority Vector

Table 19: Activity Tracking criteria

	Moodle	Dokeos	eFront	Sakai	ATutor	Priority Vector
Moodle	0.27322	0.27322	0.27273	0.27322	0.27273	0.27302
Dokeos	0.27322	0.27322	0.27273	0.27322	0.27273	0.27302
eFront	0.09016	0.09016	0.09090	0.09016	0.09090	0.09085
Sakai	0.27322	0.27322	0.27273	0.27322	0.27273	0.27302
ATutor	0.09016	0.09016	0.09090	0.09016	0.09090	0.09045

$\lambda_{max} = 5.2238$ $C.I = 0.05595$ $CR = 0.04996$

Step : Now we prepare a weight matrix by combining all the weights of each criteria. Here we have considered all calculated weight of each criterion against each platforms (table 20)

Table 20 :Weight Matrix

Platform	C_1	C_2	C_3	C_4	C_5	C_6	C_7
Moodle	0.47237	0.46295	0.29852	0.49753	0.50496	0.51772	0.27302
Dot LRN	0.05081	0.07351	0.05528	0.04701	0.12722	0.14845	0.27302
eFront	0.15107	0.19502	0.17584	0.10524	0.05453	0.09400	0.09085
Sakai	0.19028	0.07351	0.29852	0.18922	0.25831	0.16192	0.27302
ATutor	0.13547	0.19502	0.17347	0.14396	0.05453	0.07792	0.09045

Again the weight vector of each criterion among themselves are shown in the following table (from…..)

Table 21: Preference Vector

Creteria	Weight
C_1	0.15846
C_2	0.15846
C_3	0.03126
C_4	0.15846
C_5	0.36578
C_6	0.06417
C_7	0.06417

Step To obtained the resultant matrix, we multiply tables 20 and 21. The resultant matrix in table 22 provides the desired results of five E-learning platform (i.e. Moodle, Dot LRN, eFront, Sakai and ATutor) with their ranking of preferences.

Table 22. Resultant matrix with Rankings

E-learning Platforms	Scores	Rankings
Moodle	0.35578	1
dot LRN	0.10246	4
eFront	0.25061	2
Sakai	0.20351	3
ATutor	0.08769	5

The comparison and evaluation of open source E-learning platform involved examining many factors in relation to the key requirements split into various categories and subcategories. After detailed analysis it was found that Moodle platform is the most suitable for adoption to support teaching and learning process of open and distance learning. The Moodle platform has the highest scores with 0.35578 (35.59%) followed by eFront with 0.25061 (25%) , next followed by Sakai with scores 0.20351 (20.35%), followed by dot LRN with 0.10246 (10.25%) and ATutor is the worst choice with scores

0.08769 (8.77%). Here we can say that Moodle is 1.42 times preferable than eFront, 1.75 times preferable than Sakai, 3.47 times preferable than dot LRN and 4.06 times preferable than ATutor.

4. CONCLUSION

Open and distance learning is a better options for those students who has some problems such as lack of time, physical disabilities, financial, geographical distances etc. In the beginning of 21st century, the rapid growth of Information and Communication Technology (ICT) and the expansion of the volume of Internet technology has brought a revolutionary changes or opportunity for open and distance learners. The open source E-learning platform plays a significant role for open and distance learning institutions to bring together both students and teachers for learning. But the selection of proper E-learning platform for adoption is a major problem for decision makers because every Platform has different features and functionalities and every decision makers expectations vary from Platform to platform. In this paper an evaluation and comparison of open source E-learning platform has been presented. In this study we have use AHP method to find out the best E-learning platform among five platform (Moodle Moodle 3.8, dot LRN 2.5, eFront 5.2, Sakai 19.3 and ATutor 2.2.4) for Open and distance learning because Analytic Hierarchy Process is one of the most efficient and suitable methods for solving MCDM problems. By analyzing different criteria and sub-criteria we finally came to a conclusion that Moodle is the best and efficient E-learning open source platform for Open and distance learning among five selected platform.

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STUDENTS SATISFACTION MODEL IN OPEN AND DISTANCE LEARNING MODE OF EDUCATION SYSTEM: A STRUCTURAL EQUATION MODELING APPROACH

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ABSTRACT
The main purpose of this study was to develop a student's satisfaction model in open and distance learning (ODL) mode of education system. There are different factors that can influence the student's satisfaction in ODL mode of education system, but in our study we have taken only three factors namely students Technology Expertise, Flexibility of ODL mode of education system and Usefulness of ODL mode of education system. Here we proposed a model based on Technology Acceptance Model (TAM) with the above mentioned factors as a core constructs together with the construct satisfaction. The participants in this study were 196 learners who enrolled various graduate postgraduate, diploma and certificate programs in different ODL institutions in North-East region. A self-designed questionnaire that comprises 19 items as well as face-to-face and telephonic interview was administered as a tool for data collection. The collected data were coded and analyzed using SPSS AMOS v.23. Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were used to validate and explore the relationship among constructs of the model. The outcome of this study reveals that Technology Expertise, Flexibility and Usefulness significantly influenced the student's satisfaction in ODL mode of education system. Furthermore students Technology Expertise was found to be a significant predictor of Flexibility of ODL mode of education system.

Keywords: Open and Distance Learning, Technology Acceptance Model, Technology Expertise, Confirmatory Factor Analysis, Structural Equation Modeling

1. INTRODUCTION
Education is one of the most important indicators of all-round development of every human being mainly intellectually, physically, socially, politically and ethically and also inevitable for human resource development and national development. It acts as the principal instruments for academic progress, socio-economic development, social mobilization, political survival and effective national development of any country [1]. For a undeveloped region like North-East India due to the inadequate resources, it is almost impossible to educate all citizens through conventional on-campus teaching. A huge amount of money is needed to establish the sufficient infrastructure to educate majority people of this region through conventional on-campus teaching. In this situation only open and distance learning mode of education is one of the best options to educate the majority people of the region [2].

With the rapid growth of Information and Communication Technology (ICT) and the expansion of the sphere of Internet technology has changes all aspects of human life. It has given rise to the revolution in every sector of human being mainly in education sector and this technological development has opened new choices for today's education. In the recent years the explosive growth of Smartphone, smart tablet, pad technology including rapid growth of network technology mainly 3G, 4G along with the parallel growth of social networks such as face book, twitter, YouTube, flicker, MySpace etc. has opened the door in a diverse way of E-learning environment in education across the globe. The ICT enable the students to communicate or access information through these types of technologies [3[4]. E-learning has benefits the educational society by offering the integration of institutions to access the best quality study material from best faculty, individualized instruction, unique fast learner mechanism, cost effective and flexibility and zero opportunity cost of time etc.

E-learning is more suited in open and distance education system and its application has changed the whole ODL educational system at great speed. The older teaching and learning system is replaced by new system by adopting new technology. Implementing E-learning in open and distance education system has changed the whole educational system according to the learner's needs [5]. Open and distance education through E-learning is the only way to stay current. The main purpose of implementing E-

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learning in open and distance education to reach education to the doorsteps of the people who are unable to pursue higher education in regular mode conventional universities for different reasons.

In busy and job oriented life most students prefer ODL mode of education system rather than regular conventional education. So the popularity of open and distance learning rises day by day. Now incorporation of new technology into ODL educational settings has extended learning activities day by day without depending on face-to-face classroom teaching[6][7]. Flexibility of time and place is also one of the most important factors to attract a major portion of the people who are job holder or hold in other activities to gradation of their educational qualification are eager to enrolled courses in ODL mode of education system.

This paper has been organized as follows: (i) A brief introduction has been given at the beginning of the paper. (ii) After a brief introduction, the proposed research model and the casual hypothesis are formulated (iii) Preparation of the survey instrument, procedure of data collection and research participation has been given (iv) The research model has been explored for reliability and validity using Factor Analysis (CFA) and exploratory factor analysis has been conducted to identify the factor structure of the measurement item of the model (v) For both the measurement and structural model, the fit indices have been examined. In addition for structural model, the formulated hypotheses have been analyzed under Structural Equation Modeling (SEM) (vi) Concludes this paper with implications, limitations and Directions for Future Research of this study.

2. PROPOSED RESEARCH MODEL AND HYPOTHESIS FORMULATION

The proposed research model was based on Technology Acceptance model (TAM) originally proposed by Fred Davis in 1986. It is one of the most widely used models to predict user's acceptance of a new system or a specific technology. This model suggests that acceptability new system or a specific technology is determined by two main factors namely perceived usefulness of the system and perceived usefulness of the system [8]. Besides these two factors, most of the studies researchers had used attitude towards using the system as one of the core factors to determine the behavioral intention to adopt and use a new information system. After that, time to time the researchers added some new variables or some external variables to the original TAM to test the relationship between them [9]. In our study we have reconstructed the core factors in our model that reflect our aim and objective. A multidimensional approach is considered in this research to evaluate student's satisfaction in ODL mode of education system. So the factor items in this model are also selected under the control of the related factors (construct).

The proposed research model is presented in figure 1.

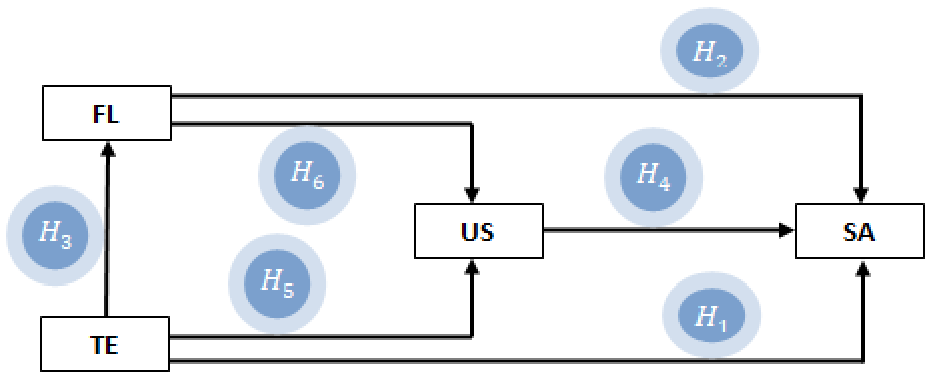

Fig.1 Proposed Research Model

The core constructs of the proposed research model and related hypotheses is presented below:

A. Technology Expertise (TE)

Technology Expertise refers here the students level of confidence in their skills of the use of information and communication technology mainly computer related activities to facilitate their learning process. It is the ability of students needs to have in order to be able to work efficiently with computer in their learning process. To check that Technology Expertise is a factor of student's satisfaction in ODL mode of education system we have formulated the following hypothesis:

H_1: *Technology Expertise has a positive influence on student's satisfaction in ODL mode of education system*

B. Flexibility of ODL mode of education (FL)

Higher educational institutions especially open and distance learning (ODL) institutions are faced student's diversity with respect to age, cultural background, domicile, personal and professional background, motivation, geographical location etc [10]. This increased of student's diversity in open and distance learners, ODL institutions designed their curriculum that adapts to and is easily accessible for students with their different needs and capabilities [11]. The system is also flexible in regard to its modalities, timing, pace, place, admission criteria. So to check the student's perceptions of the flexibility characteristics of ODL mode of education system and their impact on student's satisfaction with ODL mode of education system as well as students Technology Expertise influence on Flexibility of ODL mode of education, we have formulated the following two hypotheses:

H_2: *Flexibility of ODL mode of education system has a positive impact on student's satisfaction in ODL mode of education system*

H_3: *Students Technology Expertise has a positive influence on Flexibility of ODL mode of education system*

C. Usefulness of ODL mode of education (FL)

In busy and job oriented life most students prefer ODL mode of education rather than regular conventional education. So the popularity of open and distance learning rises day. That means these type of education is most useful to those who are multitasking i.e. study as well as to perform other job. It is a boon to those who are not able to continue their regular education due to various reasons. It is also useful to learn some new things to upgrade their skills. So to know influence of the Usefulness of ODL mode of education on student's satisfaction in ODL mode of education system and technology expertise as well as flexibility of ODL mode of education system impact on usefulness of ODL mode of education system, we have formulated the following three hypotheses:

H_4: *Usefulness ODL mode of education system has a influence on student's satisfaction in ODL mode of education system*

H_5: *Students Technology Expertise has a positive influence on usefulness of ODL mode of education system*

H_6: *Flexibility of ODL mode of education system has a positive impact on usefulness in ODL mode of education system*

3. RESEARCH METHODOLOGY

This study was based on primary data. The data were analyzed using structural equation modeling (SEM). SPSS AMOS 23 was employed for analysis of data. SEM was used to test the proposed research model in two approaches. First Confirmatory Factor Analysis (CFA) was used to purify the measurement model through validity and reliability checking followed by evaluating structural model to test the above formulated hypotheses. The overall model fit for both the model was evaluated by using some model fit criteria namely Goodness-of-fit Index (GFI), Adjusted Goodness-of-fit Index (AGFI), Normed Fit Index (NFI), Relative Fit Index (RFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) and Root Mean Square Residual (RMR).

3.1 Development of the measurement instruments

The main instruments in this study were a self-designed questionnaire divided into two parts. The first part contains of 7 socio demographic questions and second part comprising 19 items to measuring four constructs of technology expertise, perceived flexibility, perceived usefulness and satisfaction. First three constructs were measured by five items each and the constructs satisfaction was measured by four items. The questionnaire was built using a 5-point Likert-scale labeled as '1 for strongly agree', '2 for agree', '3 for neutral', '4 for disagree' and '5 for strongly disagree'.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

3.2 Data Collection

A random sample 25 study centers of Indira Gandhi National Open University (IGNOU), The Gauhati University Institute of Open and Distance Learning (GUIDOL) and Krishna Kanta Handiqui State Open University (KKHSOU) was used for data collection. Approximately 350 questionnaires were distributed to students studied in bachelor degree programs, master degree programs, certificate programs and diploma programs in different disciplines. Out of these 350 distributed questionnaires, a total of 219 were returned. But only 196 questionnaires considered as valid and used in analytical stage because in remaining returned questionnaires respondents skipped many items. Among these 196 questionnaires some of them were prepared through face-to-face or telephonic interview also.

3.3 Demographic and descriptive statistics

Table 1 shows the demographics characteristics of the respondents. Among all respondents 53% were female and remaining 47% were male.

Table 1: Respondents demographics characteristics

Variable	Classification of variables	Frequency	Percentage of frequency
Gender	Male	92	47%
	Female	104	53%
Age	18 – 30 yrs	85	43%
	31 – 40 yrs	90	46%
	41 – 50 yrs	19	10%
	Above 50 yrs	02	1%
Marital Status	Single	69	35%
	Married	127	65%
	Others	-	-
Occupation	Govt. Service	53	27%
	Private Job	55	28%
	Student	65	33%
	House Wives	21	11%
	Others	02	1%
Study Programme	Bachelor degree	97	49%
	Master degree	78	40%
	Certificate	11	6%
	Diolpma	09	5%

Table 2 shows the descriptive statistics of all four constructs. Table 2 shows the descriptive statistics of each construct of the study. As Table 2 reports, the lowest mean belongs to flexibility, followed by Technology Expertise followed by Usefulness. Since the lowest scores reflect more strong positive beliefs of a construct so, these results show that in views of respondents, flexibility is the highest controlling factor towards the satisfaction of students in ODL mode of education system.

Table 2. Descriptive statistics of Constructs

Construct	Mean	Std. deviation
Technology Expertise (TE)	2.32	1.12
Flexibility (FL)	2.24	1.01
Usefulness (US)	2.41	1.05
Satisfaction (SA)	2.46	1.07

4. DATA ANALYSIS AND RESULT

4.1 Suitability Data for Factor Analysis

Kaiser-Meyer-Olkin (KMO) of sampling adequacy and Bartlett's Test of sphericity are indices used to examine the appropriateness of factor analysis. From table 3 the Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy were found .952 which is above the recommended value of 0.8[12][13]. Hence the degree of common variance among variables was marvelous. On the other hand Bartlett's test of sphericity is used here to check the interrelationship among variables is present or not. It is shown in table 3 that $Chi-square(196) = 3173.975\ and\ p < 0.01$, so Bartlett's test of sphericity was also significant and hence the interrelationship exists among variables to proceed with factor analysis[13].

Table 3: Kaiser-Meyer-Olkin (KMO) and Bartlett's Test
KMO and Bartlett's Test[a]

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.952
Bartlett's Test of Sphericity	Approx. Chi-Square	3173.975
	Df	171
	Sig.	.000

4.2 Measurement Model Validity and Reliability
For validity and reliability of the measurement model of the latent construct, Confirmatory Factor analysis (CFA) was conducted using AMOS. CFA has the ability to access the validity and reliability of the latent construct of the measurement model. Validity means the ability of instrument to measure what it supposed to measure for a latent construct. Before modeling the inter relationship latent construct of the structural model we need perform CFA of all latent construct of the model. . With performing CFA, if any item in the measurement model does not fit the model due to low factor loading should be removed from the model

4.2.1 Validity
Validity refers to the ability of instrument measures exactly what it purposes to measure. To carry the validity procedure the convergent validity checks was conducted

Convergent validity is shown when each measurement item correlates strongly with its assumed theoretical construct. That means each measured items which are considered as indicators of a latent construct share a high proportion of variance in common. The convergent validity is achieved when all measuring items have acceptable factor loadings for the respective latent construct. Fornel and Lacker (1981) [14] has suggested that to ensure convergent validity of a measurement model, factor loading for all individual measurement item should be more than 0.70 but 0.06 is considered to be an acceptable level and average variance extracted (AVE) for each construct should be greater than 0.50 Hence any measurement item with a low factor loading should be deleted. After the deletion of the items whose factor loading lower than the suggested value the researcher needs to run the new measurement model. The process continues until the convergent validity requirement is achieved.

The standardized factor loadings of each measurement items and AVE for each latent construct are presented in table 4. Since the factor loadings of all measurement items are greater than 0.60 and AVE for each latent construct greater than 0.50 so, convergent validity is verified by the measurement model.

Table 4: AMOS output: Reliability and Validity Analysis

Constructs	Measurement Items	Standardized factor loading	Cronbach's α	CR	AVE
TE	TE1	0.95	0.89	0.90	0.67
	TE2	0.93			
	TE3	0.81			
	TE4	0.65			
	TE5	0.66			
FL	FL1	0.80	0.84	0.86	0.55
	FL2	0.83			
	FL3	0.65			
	FL4	0.62			
	FL5	0.78			
US	US1	0.77	0.85	0.86	0.55
	US2	0.65			
	US3	0.70			
	US4	0.77			
	Us5	0.79			
	SA1	0.79			

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

SA	**SA2**	**0.83**	**0.92**	**0.93**	**0.76**
	SA3	**0.92**			
	SA4	**0.93**			

The AVE indicates the average percentage of variation explained by the measuring items for a particular latent construct.

4.2.2 Reliability

Reliability means how reliable the measurement model in measuring the intended latent constructs. This reliability was made by assessing the internal reliability and composite reliability.

Internal Reliability means how strong the measuring items are bundle together in measuring the respective latent construct. For this reliability, Cronbach's α was calculated by using SPSS version 23. According to Schmitt (1996) [15] a scale is considered to be reliable when Cronbach's α value is greater than 0.70. As shown in Table 4, the Cronbach's α value for four constructs ranges from 0.84 to 0.92 indicating that all the measures employed in this study demonstrates a high satisfactory internal reliability and therefore the survey are considered as reliable instruments. Composite Reliability (CR) is another measures to measure the reliability and internal consistency of the latent construct in the measurement model. Hair et al, (2010)[13] has suggested that the value of CR greater than 0.70 reflects the good reliability but the value ranges from 0.60 to 0.70 are also acceptable if the other indicators of the construct validity are good to accept the measurement model. In our model the CR values ranges from 0.86 to 0.93, so reliability is also satisfied by this criteria.

4.3 Confirming the measurement model using CFA

After the verification of the validation of the measurement model, CFA was conducted by using SPSS AMOS 23 to evaluate of the model fit of the measurement model to confirm the hypothesis of the structural model.

4.3.1 *The Measurement Model:*

The measurement model that comprising four construct are shown in fig. 2, each construct is measured with a minimum of four and maximum of five measurement items. The reliability of the model is influenced by the random measurement error that is associated with each measurement items. These measurement items are to be regressed into its respective latent construct and these latent construct are shown to be inter-correlated to each other.

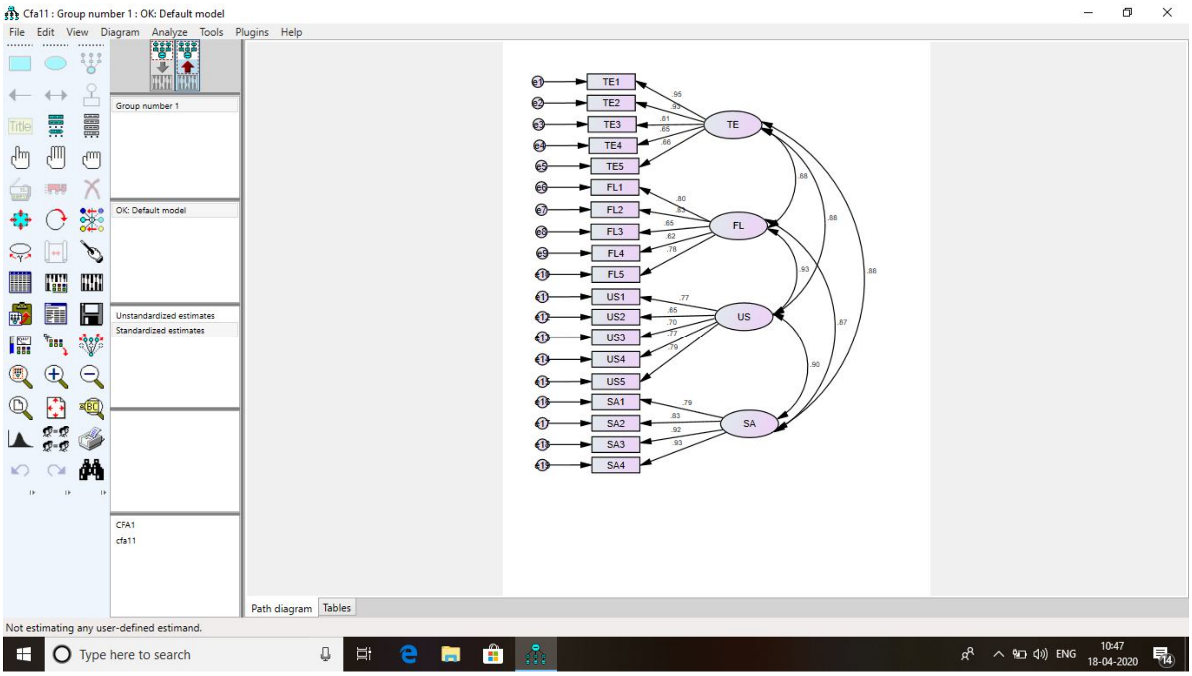

Fig. 2: The standardized measurement model

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

In this research there are 19 observed variables. Therefore there is an $\left[\frac{19(19+1)}{2}\right]$ i.e 190 pieces of information from which to derive the parameters in the model. Here there are 15 regression weight 6 co-variances and 23 variance altogether parameters to be estimated with 196 Degree of freedom which is positive. Hence the proposed model is an over-identified model.

Table 5: AMOS output: Computation of degree of freedom

Number of distinct sample moments	190
Number of parameters to be estimated	44
Degrees of freedom (df) (190-44)	146

After the specification and identification of the model, the researchers need to estimate the model. Estimation process involves the determining the unknown parameters and the associated error terms with the estimated value. It mainly estimates the sample regression weight for the independent observed variables. In SEM, there are three different estimation techniques namely Maximum Likelihood (ML), Generalized Least Square (GLS) and asymptotically distribution free (ADF). Among these ML is the most usually method of estimation used in this study.

After the model has estimated, the model fit to the data must be evaluated. But in SEM there is no single statistical significance test is there to identify a correct model on sample data, so to evaluate of model fit, it is necessary to take multiple criteria into consideration and proper model fit evaluation has been done on the basis of these multiple measures simultaneously. Several model fit indices were assessed in this study to identify model goodness-of-fit as recommended by Hair et al. [13], Hu and Bentler [16], Hancock and Muller [17]. These are- Chi-square (X^2), Degree of Freedom (df), Goodness-of-fit Index (GFI), Adjusted Goodness-of-fit Index (AGFI), Normed Fit Index (NFI), Relative Fit Index (RFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) and Root Mean Square Residual (RMR).

For the current CFA model as shown in table 3, Chi Square/ df is 3.068 (Chi –Square = 447.891, df = 146) suggesting acceptable model fit.

Table 3. Fit statistics of measurement model

Fit indices	Recommended value [13][16][17]	Model value
Chi -Square	-	447.891 with p=.000
Degree of Freedom (df)	-	146
Chi- Square significance	P<0.05	0.000
Chi Square/ df	<5.0	3.068
GFI	>0.90	0.97
AGFI	>0.90	0.89
NFI	>0.90	0.98
RFI	>0.90	0.95
CFI	>0.90	0.95
IFI	>0.90	0.96
TLI	>0.90	0.94
RMSEA	<.05	0.02
RMR	<0.02	0.003

GFI is obtained 0.97 against the recommended value of above 0.90; the AGFI is obtained 0.89 which is slight below the recommended value of above 0.90; NFI, RFI, CFI, IFI, TLI are 0.98, 0.95, 0.95, 0.96, 0.94 respectively as against the recommended value of above 0.90 as well. Also RMSEA is 0.02 which is below the recommended limit of 0.05 and RMR is 0.003 which is also below the recommended limit of 0.02. Hence the model shows an overall acceptable fit.

4.3.2 *Structural model path diagram:*

The structural model in this study is shown in fig. 2 that demonstrates the inter relationship among all four latent constructs. These four constructs are assembled into the structural model based on the formulated hypotheses in the proposed theoretical model. In reviewing the structural model, there are altogether 45 variables. Among these 19 (TE1, TE2… SA4) are observed and remaining 26 are unobserved variables. These observed variables are nothing but the questions in the questionnaire. Again among these 26 unobserved variables, 23 are exogenous variables namely TE, $e_1, e_2, \dots\dots e_{22}$ where TE is an unobserved exogenous latent variable, $e_1, e_2, \dots\dots, e_{19}$ are error terms associated with each observed variables and e_{20}, e_{21}, e_{22} are residual term associated with each three unobserved endogenous variables respectively namely FL, US, SA. An error associated with an observed variable represents measurement error which reflects on that error adequacy in measuring underlying factor. Again each residuals term represent error in the predictions of endogenous latent constructs from exogenous latent construct. For example in figure 2, the residual e_{20} represent error in prediction of the endogenous latent construct FL from exogenous latent construct TE.

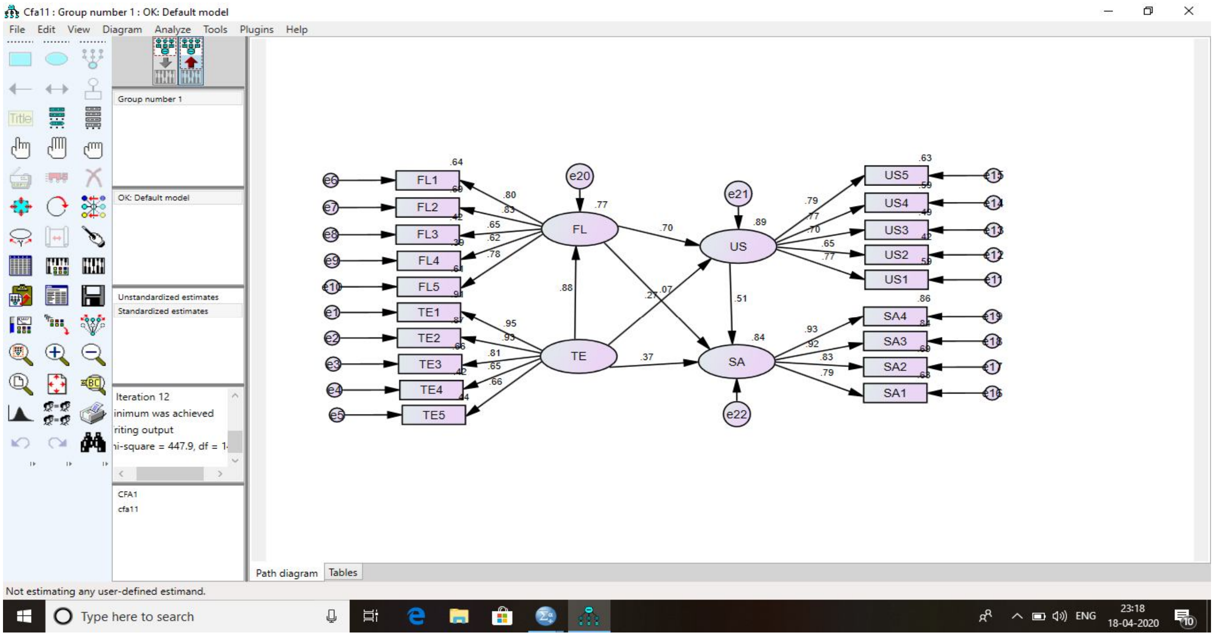

Fig. 2: The standardized structural model

The unidirectional arrow symbol $(\rightarrow)$ used in structural model represents the structural regression coefficient to indicate the impact of one latent construct on another latent construct. For example in fig. 2, the one way arrow pointing towards the endogenous latent construct FL implies that the exogenous latent construct TE causes FL. These causes are established by testing the above formulated hypotheses.

Table 5. Fit statistics of Structural model

Fit indices	Recommended value [13][16][17]	Model value
Chi Square	Should not be significant (P>0.05)	468.82 with p=.000
Df	-	167
GFI	>0.90	0.91
AGFI	>0.90	0.87
NFI	>0.90	0.93
RFI	>0.90	0.89
CFI	>0.90	0.90
IFI	>0.90	0.91
TLI	>0.90	0.89
RMSEA	<0.05	0.05
RMR	<0.02	0.03

From table 3, we have seen that for the structural model the fit indices provide a reasonable model fit. GFI is obtained as 0.91, AGFI is obtained as 0.87 and similarly obtained values of NFI, RFI, CFI, IFI,

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Vol.40-Issue.89-March, 2020

and TLI are 0.93, 0.89, 0.90, 0.91, and 0.89 respectively. Again obtained value of RMSEA and RMR are 0.05 and 0.03 respectively. Hence we can conclude that the proposed model fits reasonably.

Testing Structural Relationship:

After satisfactory fit of the model, we test the structural relationship of the latent constructs of the structural model i.e. studied the path coefficient of the structural model to test the hypotheses. The standardized path coefficients (Regression Coefficient), Standard error, Critical ratio (Z-value) with respective probabilities and result are summarizes in table 4. All six hypothesized path are significant and hence supported.

Table 4. Summary of the hypothesis testing. (Structural relationship of latent variables)

Hypothesis	Relationship	Regression Coefficient (β)	Standard Error	Critical Ratio (CR)	Probability $(P > \|Z\|)$	Results
H_1	$SA \leftarrow TE$	0.287	0.085	3.385	0.000	Supported
H_2	$SA \leftarrow FL$	0.078	0.216	0.361	0.018	Supported
H_3	$FL \leftarrow TE$	0.629	0.047	13.835	0.000	Supported
H_4	$SA \leftarrow US$	0.562	0.232	2.423	0.015	Supported
H_5	$US \leftarrow TE$	0.19	0.086	2.201	0.128	Not Supported
H_6	$US \leftarrow FL$	0.694	0.134	5.178	0.000	Supported

**P value is at 95% confidence interval

The standardized regression coefficient (**β**) of the output of the hypotheses path are compared with probability (P) value. By referring both **β** and P value each and every formulated hypotheses has been specified to judge whether they are significant or not.

The interpretation of the result is given below:

1. On the contrary to the research hypothesis, Technology Expertise (TE) has a positive influence on student's satisfaction in ODL mode of education system as the standardized coefficients (**β**) is 0.287with P as 0. This means students who perceive that he/she possesses a higher level of technology expertise (CR = 3.385; $P < 0.05$) were more likely to satisfy from ODL mode of education system. Technology Expertise refers here the students level of confidence in their skills of the use of information and communication technology mainly computer related activities to facilitate their learning process. It is the ability of students needs to have in order to be able to work efficiently with computer in their learning process and it leads to satisfaction on ODL mode of education system.

2. Flexibility of ODL mode of education system has a positive impact on student's satisfaction in ODL mode of education system as the standardized coefficients (**β**) is 0.078 with P as 0.018. Students who realized the flexibility of ODL mode of education system (CR = 0.361; $P < 0.05$) were more likely to satisfy from ODL mode of education system. Higher educational institutions especially open and distance learning (ODL) institutions are faced student's diversity with respect to age, cultural background, domicile, personal and professional background, motivation, geographical location etc. With increased of student's diversity in open and distance learners, ODL institutions designed their curriculum that adapts to and is easily accessible for students with their different needs and capabilities, The system is also flexible in regard to its modalities, timing, pace, place, admission criteria etc. So these diverse flexibility directly impact on student's satisfaction with ODL mode of education system

3. Students Technology Expertise has a positive influence on Flexibility of ODL mode of education system as the standardized coefficients (**β**) is 0.629 with P as 0. This means students who perceive that the possesses a higher level of technology expertise (CR=13.835, $P < 0.005$) stated that they have more positive attitudes about the flexibility of ODL mode of education system and a total of 77% of the variation in the flexibility was explained by technology expertise.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

4. Usefulness ODL mode of education system has a positive influence on student's satisfaction in ODL mode of education system as the standardized coefficients (**β**) is 0.562 with P as 0.015. Students who realized the flexibility of ODL mode of education system (CR=2.423, $P < 0.005$) also described ODL mode of education system as usefulness were more likely to satisfy from ODL mode of education system. In busy and job oriented life most students prefer ODL mode of education rather than regular conventional education. So the popularity of open and distance learning rises day. That means these type of education is most useful to those who are multitasking i.e. study as well as to perform other job. It is a boon to those who are not able to continue their regular education due to various reasons. It is also useful to learn some new things to upgrade their skills. So the Usefulness of ODL mode of education positively influence on student's satisfaction in ODL mode of education system The combination of Technology expertise (TE), Flexibility (FL) and Usefulness (US) jointly explained 84% of variance in satisfaction of ODL mode of education system.
5. On the contrary to the research hypothesis there is no significant relationship between Students Technology Expertise and usefulness of ODL mode of education system as the standardized coefficients (**β**) is 0.19 with P as 0.128 which is greater than 0.05. This means that Students who had more technology experience do not mean that they find the ODL mode of education system as useful. Students satisfaction in ODL mode of education and students expertise in computer technology are two different approaches factor and former one is not a dependent factor of the later one.
6. Flexibility of ODL mode of education system has a positive impact on usefulness in ODL mode of education system as the standardized coefficients (**β**) is 0.694 with P as 0. Students who realized the flexibility of ODL mode of education system (CR = 5.178, $P < 0.005$) were more likely to described ODL mode of education system as usefulness. This mean that Flexibility of open and distance mode of education system is a significant predictor of Usefulness of open and distance mode of education system.

CONCLUSIONS

The main aim of this study is to understand the factors that can influence student's satisfaction in ODL mode of education system through examining the relationships between student's technology expertise, flexibility, usefulness and their satisfaction in ODL mode of education system by using technology acceptance model (TAM). Actually understanding student's perceptions and their satisfaction in ODL mode of education system is that first step towards developing and implementing E-learning environment. Findings from current study reveals that students technology expertise and their perceptions on flexibility and usefulness of ODL mode of education system can be considered as the predictors of their satisfaction in ODL mode of education system.

The study has limitation in terms of sample size and sample selection. The first limitation is that some randomly selected study centers of three universities namely Indira Gandhi National Open University (IGNOU), The Gauhati University Institute of Open and Distance Learning (GUIDOL) and Krishna Kanta Handiqui State Open University (KKHSOU) was used for data collection. The next limitation of this study is that we have considered only one factor of students namely their technology expertise and two factor of the system namely flexibility and usefulness but there can be several factors that can affect the students perception on the satisfaction in ODL mode of education system such as social influence, facilitating condition, faculty support etc.

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APPENDIX

QUESTIONNARIE SURVEY

To what extent you agree or disagree regarding the following items in terms of the following items (Put symbol √ in appropriate option)

Code	Items	SA	A	N	DA	SD
Technology expertise						
TE1	ODL mode of education increases my use of computer					
TE2	ODL mode of education increases my knowledge in computer related activities like word processor, Spreadsheet, PowerPoint presentation etc					
TE3	ODL mode of education helps me to use the internet source (for e-books, e-journal, e-newspaper etc.) more efficiently in my learning					

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

TE4	ODL mode of education contributes to my knowledge of searching on the internet for course Assignment and Project					
TE5	ODL mode of education increases use of my social media platform like Facebook, Twitter, Google+, Blogs etc.					
Flexibility of ODL mode of education						
FL1	ODL mode of education allows me to allocate my time better					
FL2	ODL mode of education allows me to work at home comfortably					
FL3	ODL mode of education, there is no rigid study schedule or timings. I can study according to my own schedules.					
FL4	ODL mode of education is appropriate for me with different learning processes					
FL5	In terms of use time and location, ODL mode of education is more flexible					
Usefulness of ODL mode of education						
US1	I believe that ODL mode of education is useful					
US2	ODL mode of education provides me a valuable learning experience					
US3	A degree in ODL is valuable like a degree in conventional face-to-face education					
US4	I believed that ODL mode of education minimizes the inequalities in education					
US5	I believe that ODL mode of education overcomes economic and social barriers					
Satisfaction in ODL mode of education						
SA1	The content of the courses in ODL mode of education meets my expectations					
SA2	I am pleased with student support services provided in ODL mode of education system					
SA3	I would like to continue ODL courses in future					
SA4	I would like recommended ODL courses to my colleagues					

(SA-Strongly Agree A- Agree N- Neutral D-Disagree SD- Strongly Disagree)

LENDING AND CORPORATE GOVERNANCE ISSUES AT YES BANK

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ABSTRACT

The Research Paper speaks about the several lending and corporate governance issues at Yes Bank, which led to the collapse of the bank. The paper would discuss about the role of the auditors, the role of the Reserve Bank of India and the Risk management practices of the bank. Further we also discuss about the credit rating agencies and their decisions made with regards to the bank's performance.

Index Terms- Lending Issues, Corporate Governance Failures, Stressed borrowers, NPAs, credit rating.

I. INTRODUCTION

This article guides a stepwise walkthrough of the corporate governance issues and the ill decisions made about disbursement of loans to borrowers. Banks function on four basic pillars; Trust, Natural and Stable Funding, Convenience and Payments.

YES Bank Limited is an Private Sector Bank headquartered in Mumbai, India was founded by Rana Kapoor and Ashok Kapur in 2004. It provides a wide range of banking and finance products through retail banking and wealth management services to corporate and institutional customers. YES Bank, India's fourth largest private sector bank, is a high-quality, customer-centric, service-driven catering bank for India's Future Businesses. YES Bank has grown into a 'Full Service Commercial Bank' since its inception in 2004, providing a complete range of products, services and digital offers, catering to corporate, MSME & retail customers. YES Bank has an investment banking operation as well. The bank handles approximately up to 35% of all the Unified Payment Interface (UPI) transactions across the country and has some major customers who use the UPI services such as, Zomato, Swiggy, Flipkart, Airtel, PhonePe, Cleartrip, RedBus to name a few. It was responsible for managing 514 million UPI transactions in January 2020 out of the 1,31 billion made that month. YES Bank holds shares listed on the Bombay Stock Exchange and on India's National Stock Exchange and has bonds listed on the London stock exchange. YES Bank was listed on India's stock exchanges in May 2005, publishing its IPO at an issue price of approximately ₹ 45. The bank had a huge deposit amount of approx. ₹ 2 Lakh Crores with more than 18000 employees working for the bank.

The bank, post 2008, under the control of Rana Kapoor, had seen a change in the pattern of loan disbursals. Around 2010, It was alleged that, Rana Kapoor began to aggressively disburse loans at high rates of interest to risky debtors, from whom the recovery of loans with the interest was highly risky. Thus, Rana Kapoor was found being involved in a very high-risk game.

In 2015, UBS, a global financial services company had pointed out that, YES Bank's rapid growth is supported by the loans it had been making to the highly stressed companies, at higher rates in order to earn better returns. The few prominent ones are Reliance Infrastructure and Telecom, DHFL, IL&FS, Jet Airways, Videocon, ESSEL group, Cox and Kings. Thus, the major reason for the bank to collapse were the Bad Loans and NPAs made.

Apart from this, the bank had been underreporting its NPA percentage to the RBI. The RBI had been monitoring the bank's functioning, and noticed that the bank, despite of making humungous loans to the stressed companies, had been concealing the NPAs. Upon investigation by RBI, it was found that there was a difference of ₹ 3000 Crores between the actual figures and the figures depicted by the bank. Seeing this, the RBI decided to regularly inspect the bank, and in September 2018, RBI decided to remove Rana Kapoor from the Board. However, Rana Kapoor insisted that his term at the bank be extended, the plea was turned down, and in January 2019, Rana Kapoor had to exit from the bank's control.

The Bank's Credit Rating had been degraded by CARE, and Moody's had downgraded the bank's rating from stable to negative.

In March 2019, Ravneet Gill was appointed as the new CEO of the bank. The financial troubles of the bank had gone so far, that YES Bank reported its first ever quarterly loss in April 2019 of ₹ 1507 Crores. Following this, the stocks of the company drastically fell by 30%, on the next day. The bank's Non-Performing Loans had reached 8%.

Further, In November 2019, Rana Kapoor had sold off almost his entire promoter stake, worth ₹ 142 Crores, this was the major indication that there was something wrong in the bank's financial health, and might default soon.

Then, on 5th March 2020, the RBI had to take up the entire control of the bank and declared a moratorium by imposing a restriction on the withdrawals from the bank of only up to ₹ 50000, to avoid Bank Run, and on the 8th of March, the Enforcement Directorate had arrested Rana Kapoor, on the allegations of fraud and money laundering.

The article would further discuss the what was the role of the auditors, the credit rating agencies and the RBI, what how their decisions impacted the beleaguered bank. In order to know what resulted in the collapse of India's fourth largest bank, we need to primarily understand how the bank had been disbursing loans and on what factors had it considered to disburse them. Alongside, we would be understanding what kind of risk management practices did the bank's Risk Management Team undertake.

II. LITERATURE REVIEW

- Assistant Professor, Hemal Pandya (2011) from Gujarat University, has described in his research paper, "Corporate Governance Structures and Financial Performance of Select Indian Banks" that numerous studies have looked at the effects of corporate governance frameworks for the success of businesses. While in its conclusions the current literature is not conclusive, the weight of opinion is that there is a significant relationship between governance frameworks and firm results. Using samples of public and private banks operating in India, this study aims to investigate the relationship between CEO duality and the proportion of independent directors on company output as calculated by asset return (ROA) and equity return (ROE), using statistical techniques.

- Jayati Sarkar Subrata Sarkar (12 February 2003) have observed in their research paper titled, "Large Shareholder Activism in Corporate Governance in Developing Countries: Evidence from India" most of existing evidence on the effectiveness of large corporate governance shareholders has been restricted to a handful of developed countries , notably the United Kingdom, the United States, Germany and Japan. The picture of monitoring large-shareholders emerging from our case study of Indian corporations is a mixed one. Like many of the current studies, while we expect directors' block holdings to increase the value of the company after a certain number of holdings, there is no evidence that institutional investors, usually mutual funds, are involved in policy. Their review also highlights that foreign ownership of equities has a beneficial impact on the valuation of the business. In general, the study supports the view emerging from developed world research that corporate governance relates to the reputation of major shareholders.

- Professor Arindam Banerjee, from the Institute of Chartered Financial Analysts of India (ICFAI) – ICFAI School of Financial Studies (ISFS), proposes in his paper," Corporate Governance: A relook into the Indian Banking System" to emphasize traditional Corporate Governance Theories. It will illustrate the particular challenges that financial intermediaries face in corporate governance and balance this theoretical viewpoint with observations made in a global context. The paper discusses the element of the theory of agencies that describes the issue of corporate governance in terms of how equity and debt investors control managers to behave in the best interests of the capital providers. The management of public sector banks in India finds absolute importance in this field. The whole paper follows a series of some regulatory changes which the central bank is likely to adopt in the near future. With the aim of getting fewer large public sector banks in the coming days, there is little need for more focus on the need to research the importance and significance of corporate governance issues related to public sector banks. The paper addresses many of these issues.

- Sumon Kumar Bhaumik, from Brunel University, Centre for Economic Development and Institutions, School of Social Sciences, Uxbridge, UK, expressed in his paper, "Does lending behavior of banks in emerging economies vary by ownership? Evidence from the Indian banking sector" that although much has been addressed about the correlation between ownership and financial performance of commercial banks in advanced economies, there is small proportion on cross-ownership differences in banks ' credit market activity in developing economies. Their findings suggest that the domestic bank data in India meet the portfolio-choice model well, particularly for private banks, but the model cannot justify a foreign bank's behaviour. In general, asset allocation between risk-free government securities and risky loans is affected by past allocation trends, stock exchange listing (for private banks), risk aversion in banks, NPA management rules, and banks' willingness to recover questionable credit. It is also obvious that banks are dealing with changing levels of systematic risk by modifying the securitized to non-securitized credit ratio.
- In their paper "Role of Auditors in Corporate Governance," Professor Navajyoti Samanta and Professor Tirthankar Das stated that Corporate Governance refers loosely to the entire system of rights, processes and controls established internally and externally over the management of a corporate entity with the aim of protecting the interests of its stakeholders. The key prerequisite for doing so is to have a straightforward, open, succinct and accurate image of the financial affairs of the company. This was achieved through the auditing process, however willful or inadvertent negligence in the auditing process has resulted in disastrous consequences. This paper will concentrate on the role of auditors in corporate governance with 'who will protect the guards,' as the central theme, thereby delving into issues related to auditors' roles, independence of auditors, transparency of auditors, review and comparison of corporate scandals benefiting from weak accounting standards and disclosure requirements.

III. RESEARCH METHODOLOGY

Techniques of data collection:

The sources of the information and data of the research paper, was collected from several published research papers from various journals, company annual reports and other sources from the internet.

Analysis

Upon tracking the performance of the bank, over a period of 5 years; starting from 2015, we can observe the spike in the amount Debt the bank accumulated. As per reports, it was alleged that Mr. Rana Kapoor was focusing aggressive lending to stressed companies in order to fetch higher returns from these risky investments. Hence, the total assets of the bank also were rising as the bank was making aggressive lending to its borrowers.

The real issues of the bank began to surface in the year 2017, when the total liabilities of the bank had begun to show an increasing trend. The profits of the bank were also increasing, but as and when the major borrowers of the bank, began to collapse between 2018 to 2019, the losses bean to cripple the bank's profitability. The book value of the bank, following all the bad decisions of lending made, fell from ₹ 483.13 in 2017 to astonishing ₹ 9.99 in 2020. These are certain indicators which were pointing towards the incorrect lending decisions made by the bank, and hence several institutions and key regulators and people had raised a hand on the lending practices and the corporate governance isssues.

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OBJECTIVE OF THE STUDY: TO UNDERSTAND THE LENDING AND CORPORATE GOVERNANCE ISSUES AT YES BANK.

PARTICULAR	MAR '15	MAR '16	MAR '17	MAR '18	MAR '19	MAR '20
TOTAL DEBT	1,17,396.25	1,43,378.51	1,81,480.53	2,75,631.73	3,36,034.29	-
TOTAL LIABITES	1,36,170.42	1,65,263.41	2,15,059.92	3,12,445.61	3,80,826.17	2,57,826.92
TOTAL ASSETS	1,36,170.42	1,65,263.42	2,15,059.91	3,12,445.60	3,80,826.16	2,57,826.92
Book Value (Rs)	279.6	327.84	483.13	111.85	116.22	9.99
Total Income	13,618.46	16,245.59	20,581.40	25,491.26	34,214.90	29,508.10
Total Expenditure	52,223.06	32,494.62	21,266.69	17,251.30	13,706.14	52,223.06
Net Profit / Loss for The Year	2,005.36	2,539.45	3,330.10	4,224.56	1,720.28	-22,714.96

We would need to understand how the bank had gone ahead with lending to the stressed debtors. The bank is a huge corporate lender, which had credits made to companies like, IL&FS, Anil Ambani group, Jet Airways, DHFL, Café Coffee Day, Essel Group to name a few. The collapse of these companies wasn't something that happened over a period of one year. The improper operational and management strategies of these companies were in question for over quiet a long time. The credit ratings of these companies from the period between 2015 to 2020, have been degrading. Some companies like IL&FS, which is a major infrastructure finance company, had excellent credit ratings and audit reports until the collapse. The company had taken up huge projects such as the NOIDA toll collection plaza, which was also the country's first electronic toll collection facility, the Chennai-Nashri Tunnel, Part of the Jammu-Srinagar National expressway planned 286 km long four-lane, a segment usually inaccessible for almost 40 days every year due to inclement weather. The company had begun to face cash crunch taking up such huge projects, and its debt began to increase as well. The NBFC division of IL&FS had a gross NPA of 90% as of December 2018, which is absolutely unusual for any company to have in its loan books. The following table shows the list of loans the bank had made to two highly debt-ridden companies:

COMPANY	LOAN AMOUNT	CREDIT RATING	AUDITOR'S REPORT
IL&FS	₹ 2500 Crores	A1+ (ICRA 2015) to D (ICRA 2019)	Compliance adhered
JET AIRWAYS	₹ 1100 Crores	BB (ICRA 2015) to D (ICRA 2019)	Compliance adhered

The above table depicts the two major borrowers of the bank which had defaulted on the loans as a result of bankruptcy. Jet Airways, the country's second largest full-service airline is currently undergoing the Insolvency and Bankruptcy procedure. The airline had a loan from various creditors, YES bank being the major lender to the airline. The bank, had made the loans after checking the credit worthiness of the airline, which had a stable rating in 2015 as stated by ICRA. Also, from the annual reports of Jet Airways and IL&FS we could observe, the auditors stated that compliance adherence were met according to the companies act 2013.

This would mean that the two companies had been evergreening the books of accounts and the financial health, which is one of the major reasons to cite for the lending issues that were made by the bank.

We further can find that, the other two major borrowers, Anil Ambani Group and Essel Group, too had the similar issues. The two companies had taken loans worth ₹ 12800 Crores and ₹ 8400 Crores respectively. While the compliance adherence of the audit reports of the two companies had been met, the two had not disclosed the correct financial health. Hence the discrepancies in the audits and creditworthiness check from the bank's end were also one of the reasons why the bank's lending pattern landed the bank up in trouble.

The ex-CEO, Mr. Rana Kapoor, post taking over the control of the bank had aimed to have the sole control of the bank, and had been making the aggressive strategies for expansions. The entire system of the bank is working in a suspicious manner. The audit companies like Big Four have been in involved in the fall of the bank as well. These external audit firms, function with the motive to protect the interest of the shareholders of the company, to provide transparency and fair information to the shareholders. Since the bank's audit reports were declared clean, it would indicate that the audit firms had either been involved in breaching the corporate governance norms, due to which the interest of the shareholders of a company goes for a toss. The other role of the auditors is to take accountability for manipulation of numbers made in the organization, however the external auditors who are supposed to be independent of a company's influence, failed to promote their accountability for the collapse of the banks. There have been cases in the past where the audit firms have been pointed at for not being completely fair. Thus, the bank had inflated the figures of the financial statements. The fall of YES Bank also indicates that, neither did the Bank's Risk Management Team, nor did the external auditors conduct and follow thorough crisis management procedures.

RBI plays a pivotal role in corporate governance design and implementation. RBI exercises the role of Corporate Governance under the oversight of the Financial Supervisory Board. The BSF's primary goal is to conduct centralized financial sector regulation that would threaten commercial banks, financial institutions, and NBFCs. The bank, post the statement of UBS, was under the observation of the RBI since the year 2015. The central bank had conducted an Asset Quality Review (AQR), where they found a series of serious issues related to loan divergence and the Non-Performing Loans at the bank. The RBI had exchanged a lot of letters with the bank related to the corporate governance compliance failures and valuation of statutory to which the bank failed to respond.

RBI asked yes bank upon:

a) Weak compliance culture and serious violations of the administrative and legislative guidelines from 2014-15 to 2017-18

b) Lasting weakness in governance and enforcement

RBI brought note to Yes Bank in a letter dated April 2018:

a) A series of serious lapses in Yes Bank's operations and governance.

b) Highly inappropriate procedures in credit management, serious deficiencies in governance and weak culture of compliance.

c) Formulated to re-evaluate Kapoor's bonus / remuneration plan and find the clawback of the bonus payable to him for the year 2014-15 and 2015-16.

IV. CONCLUSION

From the above analysis we can identify that:

a) The ex- CEO of the bank, Mr, Rana Kapoor, tried to swirl the bank's operation and the profits all under his control, eventually trying to run the entire bank as a one-man army.

b) The rapid expansion that the bank aimed for was the incorrect strategy it implemented.

c) The bank's strategy to provide loans to stressed borrowers in return for higher rates of return. The bank had compromised the safety of the depositor's money. A bank must balance the profits keeping the safety of the depositors.

d) The compromises made on the lending procedures and the corporate governance would result in collapsing the bank.

e) The trust of the bank, must be maintained in order to avoid bank run.

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IMPACT OF DAILY PHYSICAL EXERCISE AND YOGA ON RURAL STUDENTS

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ABSTRACT
It has been observed that in India, rural tribal students do not get physical and mental development if they do not get adequate nutrition. Thus, their development is possible through exercise and yoga. Patanjali sage was well versed in yoga as well as grammar, yoga, healing, etc. He has mentioned the first sutra 'Athayoganushasanam'. This means that we need to practice yoga from childhood to get rid of the physical and mental degradation of human beings. The second sutra is 'Yogarthattavritti Nirodh:' Yoga means uniting the two living beings and the divine. So the Ashtanga Yoga that is explained is Yama Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, Samadhi. It gives us information about how to keep life healthy and happy. In the presented research paper, the importance of exercise and yoga for the physical and mental development of rural students has been highlighted.

Keywords: physical exercise, yoga rural, fitness

INTRODUCTION

Evidence of the lore of yoga dates back to mythological times. Examples of this have also been seen in the Sadhu Valley Civilization. Lord Shiva is considered to be the promoter of this lore. 84 thousand asanas of yoga have been mentioned. Lord Shiva gave the first instruction of yoga to Mata Parvati. Yoga and asanas are a combination of different postures of life. Which inadvertently has to face all the people. Yoga is useful for resolving the deteriorating condition of life which causes people to face various diseases. While practicing yoga is changing the lifestyle of the people, it is also getting rid of many incurable diseases. Yoga increases physical and mental concentration. This gives people the strength to look into the inner mind and to work in harmony with the physical structure and various organs. Yoga has become a need at present. Its benefits attract people. There is no need to make special arrangements for conducting yoga. Yoga practice can also be done in small places. Different asanas of yoga increase the activity of various organs inside the body. They emit only the desired amount of enzymes. Practicing yoga regularly and regularly makes our body healthy first. Keeping the body healthy also makes the mind and brain energetic. Spiritual happiness is achieved only by keeping both of them healthy. Happiness and success in life come only from the health coordination of these three. And exercising regularly for 30-45 minutes has a good effect on your mental health. It also fixes your mood. Exercise builds new nerve cells that keep diseases like Alzheimer's and Parkinson's away. Exercise can also prevent symptoms such as dementia that develop later in life. Students desperately need both yoga and exercise.

Work of yoga

The pineal gland of a yoga practitioner develops. The pineal gland is a small endocrine gland located on the surface of our brain. It secretes a hormone called melatonin. This hormone affects the sleeping and waking center located in the spinal cord and photoperiodic activities. Its shape resembles a small cedar cone. This gland is tightened like a screw in the middle of the two segments near the center of the brain, between the two segments where the two circular internal organs of the brain are connected. The secretory function of the pineal gland has only recently been understood. Its position deep inside the brain has indicated to philosophers that it has some special significance. In compound science, it is called 'Ajna Chakra' or 'Third Eye'. The pineal gland is the size of a cone-shaped pea and is located in a small cave behind and above the middle pituitary or pituitary gland in the brain. This location is located just behind the base of the nose and just behind the eyes, near the endothelium of the brain. Philosophers and our skilled spiritual sages have meditated for a long time to uncover the real work of this mysterious gland. Ancient Greek philosophers believed that the pineal gland belonged to our ideological empire. Descartes called it the 'seat of the soul'. These glands are activated by light. And controls many of the body's bio-rhythms. It works closely with the hypothalamus gland. This controls the biological clock in the body which drives thirst, hunger, libido, and the aging process of the body.

THE MOST IMPORTANT BENEFITS OF YOGA FOR STUDENTS

1. Educational reform

Research has shown that yoga relieves stress on students, paving the way for better academic performance with asanas, meditation, and breathing exercises. Reducing students' stress levels and giving them more peace of mind. There is an increase in occurrence.

2. Boosting memory

Stress, anxiety and negative thoughts are removed through meditation, yoga brings to the fore the thoughts that you need to focus on. Studies have shown that yoga has better results than brain training. Historical knowledge now combined with scientific studies has shown that yoga is a recommended therapy for students. here are some yoga exercises to improve memory Ashtanga Yoga, Kundalini yoga for 20 minutes every day, with mantras can help promote memory.

3. Long-term focus

With regular yoga sessions of 20 minutes a day for four weeks to keep the children focused on studies, yoga helps keep the children focused on various subjects for a long time. Yogic environments encourage the mind to focus and concentrate on one side.

4. Better posture

Prolonged sitting at the desk causes chronic pain and reduces the ability to breathe. Yoga will make you more aware of your body and train you to align your muscles correctly. Aligning the body correctly allows the body to function with minimal energy. Yoga is aimed at balance, flexibility, and stamina strengthens muscles and connective tissues which enables good posture. Practicing yoga will bring positive changes in mood and attitude, increase energy levels and make a student There are many forms of yoga and each has its unique style, goals, and set of practices and disciplines that are necessary to achieve both mental and physical benefits.

Physical exercise:

Whether a man or a woman, whoever eats needs as much exercise as food. The reason is obvious. By not giving fire to the body in the form of exercise, the human body becomes lazy, weak and sick, the foods from which blood and other metals form Many kinds of bad thoughts start to be generated, man's intellect and memory become dull and sad old age surround him only in his youth. If the human body is to be enjoyed, then making it healthy and strong through exercise and protection of celibacy is the ultimate religion of every man and woman.

The benefits of exercise

1. The body remains fit and curvy.

2. Strength remains in the muscles

3. Sleep comes on time, and sleep does not come in the day without any reason.

4. Digestive power works well so that your health is constantly good.

5. The body stays young for a long time, the effects of old age come late.

6 Prevents diseases like cancer and diabetes

7. Great for the mind

8. Keeps depression away, hormones that keep the brain happy remain active.

CONCLUSION

For rural students, regular practice of yogasanas and physical exercises strengthens the spine, relaxing the veins and arteries. All the organs of the body function smoothly. Through pranayama, oxygen reaches the molecules of the body, which destroys unnecessary and harmful substances, expels toxins - so that pleasant sleep begins to come automatically on its own time. Pranayama and meditation make the brain more active and powerful than ordinary people. With yoga, where the energy of the body is awakened, the mysterious powers hidden in the inner part of our brain arise. Success in life requires the positive energy of the body and the strength of the brain.

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LESSON PLAN: A CRITICAL STUDY

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ABSTRACT
Lesson plan is a tool that helps a proper direction to the teachers for conducting smooth teaching-learning aspects. It a proper lesson plan can be cone, then it can ensure quality of learning outcomes. Hence, a proper lesson plan is a must for smooth running of teaching-learning transaction. The present paper aims to analyze the conceptual aspects of lesson plan and its allied matters for a comprehensive understanding for a better transaction in teaching-learning condition.

Keywords: General objectives, specific objectives, previous knowledge, recapitulation,

INTRODUCTION
Lesson plan ought not to be the special responsibility of trainee teachers but, rather, a hallmark of the professionalism of all teachers. Lesson plan is at the very essence of reflexivity conceding the fundamental questions of what the teacher intends that the pupils should learn and how this is to be achieved. Lesson plan is the surface evidence of a reflective process which is fundamental to effective teaching and subsequently productive learning. It constitutes a cycle which looks backwards as well as forwards when plans the present to provide a continuum of coherence and continuity. Lesson plan requires that attention be given to a range of important questions, from philosophical and psychological questions concerning the nature of desirable and worthwhile learning outcomes, through the practicalities of implementation to evaluative judgments about effectiveness and quality. All of these dimensions can be knitted together in a planning matrix indicating a rich web of inter-related teaching, learning and resource opportunities. Lesson plan, above all, dispenses with the unsatisfactory nature of random and haphazard unplanned activity which *chunks* learning inconsecutively and incoherently. Lesson plan underpins purposeful learning and effective teaching and frees the teacher to concentrate on quality delivery and engagement with the learners.

Lesson plan is a vital component of the teaching-learning process. A lesson plan is the instructor's road map of what students need to learn and how it will be done effectively during the class time. A successful lesson plan addresses and integrates these three key components:

- Objectives for student learning,
- Teaching / learning activities,
- Strategies to cheek student understanding.

When planning strategies and procedures for the lesson, following aspects must be considered:

- Learning styles – use a learning style inventory at the beginning of the term,
- Higher levels of thinking – Bloom's , etc.,
- Engaging students through best practice and differentiated instructional strategies,
- Protecting instructional time,
- Intervention strategies,
- Enrichment strategies,
- Interdisciplinary connections/strategies.

PREPARATION OF LESSON PLAN
Following points should be kept in mind while preparing a lesson plan:

- Lesson number
- Date
- Time

- Class
- Subject
- Average age of children
- Topic of the lesson
- Objectives of the lesson :---- General objectives and specific (behavioural) objectives
- Material aids
- Previous knowledge
- Introduction
- Presentation
- Comprehensive question
- Black-board summary
- Application or Recapitulation
- Home-work

SOME MAJOR ISSUES ARE DEALT BELOW

✓ Topic of the lesson**:** For effective teaching the reading material is divided into various topics.

✓ Objectives of the lesson**:** Before lesson is taught, it is necessary to decide its aim or objectives. Every lesson has following two types of aims:

a) General objectives: By general objectives it is meant aims related to the subject.

b) Specific objectives: Those objectives which are not related to the full subject, instead, they are related to a part of the lesson and with a particular context.

✓ Material aids: In-order-to make the teaching successful, effective and interesti, a teacher uses material aids or devices and techniques.

✓ Previous knowledge**:** In previous knowledge not only the previous reading material, but all the experiences of the child, which s/he has achieved till now is included.

✓ Introduction**:** Before starting a new lesson, a teacher should prepare his/her students to acquire new knowledge. Here a question arises, ho a teacher can ask some questions based on the students' previous knowledge, in-order-to inculcate interest, enthusiasm and curiosity among his students for accepting the new lesson.

✓ Presentation: For the development of the units, a teacher is required to use various educational techniques like questions, examples, explanation, narration and exhibition.

✓ Comprehensive questions: Comprehensive questions are those questions, which are asked by the teacher from his students after teaching every unit of the lesson, in-order-to ascertain, whether the students have properly understood the lesson or not.

✓ Black–board Summary**:** Black–board summary consists of important sentences which should be small, clear, relevant and written in a serial form so that students can adopt lesson matter easily and comfortably.

✓ Recapitulation**:** Recapitulation exercise should be done so that whatever has been taught to the students till now, can be retain in their brains. The teacher comes to know about the success or failure in achieving his aim.

✓ Home – work **:]**Home assignment should be given to the students related lesson.

IMPORTANCE OF LESSON PLAN

Every teacher is required to prepare a lesson plan because this is considered as guide for the day's lessons. Lesson plan is important because it gives the teacher a concrete direction of what she/he wants to take up for the day. Lesson plan is important because it helps teachers ensure that the day-to-day activities that go on in their classrooms are providing students with an adequate level of long-term progress towards the goals outlined in their scope and sequence, as well as their individual education plans when necessary. An effective lesson plan includes several elements: learning objectives, quality questions, supplies and activities etc. It is important to have the learning objectives in mind because those should drive the development and implementation of all activities in the classroom. Quality questions are inquiries that the teacher plans to direct at the students over the course of the lesson. Sometimes these questions are rhetoric in nature, but more often they are designed to help the student think at a higher level than simple memorization and comprehension. So, it is important to come up with a lesson plan for assessment to determine whether the class has met its targets. Although, lesson plan is a complex yet essential part of the teaching process that changes over time as teachers gain more hands on experience.

BESIDES, A LESSON PLAN HAS ITS IMPORTANCE DUE TO THE FOLLOWING ASPECTS

- It helps the teacher to conduct his/her lesson in an orderly fashion and it allows students to know what they are going to be learning and how it fits into the course syllabus.
- The students also feel that the lessons are sequenced properly. Having a good lesson plan will also increase confidence in the teacher; on the other hand, not having a plan will result in complete failure for both teacher and students. In addition, a detailed lesson plan clearly demonstrates that the teacher has taken the time, as well as, put in the thought and effort into making the lesson.
- The teachers who do not produce a lesson plan are often lazy, or feel that they can create a lesson based on what is happening in the classroom at that moment. This can sometimes work, but to continue to never have a lesson plan proves to be ineffective.
- Lesson plan consists detailed lessons will avoid problems in class. This will give the teacher confidence that they have done their best to plan for any eventuality, or at least minimize some problems.
- It is important to note that lesson plan is a thinking process, not the filling in of a lesson plan template. Lesson plan envisaged a blue print, guide map for action, a comprehensive chart of classroom teaching learning activities.

STEPS OF LESSON PLAN

Steps for preparing a lesson plan: - Below are six steps in-order-to create lessons plans. Each step is accompanied by a set of questions meant to prompt reflection and aid in designing teaching and learning activities.

➢ Outline learning objects: - The first step is to determine what a teacher wants to develop to the students to learn and be able to do at the end of class.

➢ Develop the introduction: - The teacher has learning objectives in-order of the importance, he/she has to design the specific activities which will be used to get students to understand and apply what they have learned.

➢ Plan the specific learning activities:- Prepare several different ways of explaining the material (read-life example. analogies. visual etc.) to catch the attention of more students and appeal to different learning styles.

➢ Plan to check for understanding: - The teacher has explained the illustrated topics it with different examples. The teacher needs to check for student understanding, how will the teacher knows that students are learning, think about specific question the teacher can ask students in-order-to check for understanding, write them down, and then paraphrase them so that the teacher is prepared to ask the questions in different ways.

➢ Develop a conclusion and a preview: - Go over the material covered in class summarizing the main points of the lesson. The teacher can do this in a number of ways: the teacher can state the main points. The teacher can ask at student to help the students to summarize, or can ever ask all students to write down on a piece of paper what they think were the main points of lesson the teacher can review the students answer to gauge their understanding of the topic and then explain anything unclear the following class conclude the lesson not only by summarizing the main points, but also by previewing the next lesson.

- Create a realistic timeline: - A list of ten learning objectives is not realistic. So narrow down mist to the two or three key concepts, ideas or skills a teacher wants the students to learn. Instructions also agree that they often need to adjust their lesson plan during class depending on what the students need having additional examples or alternative activities will also allow the teacher to be flexible.

CONCLUSION

A good teacher always wants to students' success. The teacher knows how to design lesson for students and it should be reflected in their mind. Lessons plan should be ready at least one week before from the beginning of the class for the necessary arrangement to be made. Lesson plan should be practical and useable depending on the grade level; and subject matter. If the teachers follow curriculum the lesson plan will be very successful. Lesson plan provides a coherent framework for smooth efficient teaching, it helps the teacher to be more organized. It gives a sense of direction in relation to the syllabus, it helps the teacher to be more confident when delivering the lesson, and it helps the teacher to plan lessons which cater for different students. It is a proof that teacher has taken a considerable amount of effort in his/her teaching. To be effective, the lesson plan does not have to be an exhaustive document that describes each and every possible classroom scenario; nor does it have to anticipate each and every student's response or question. Instead, it should provide a general outline of teaching goals, learning objectives, and means to accomplish them. It is a reminder of what a teacher wants to do and how s/he wants to do it. A productive lesson plan is not one in which everything goes exactly as planned, but one in which both students and instructor learn from each other.

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WOMEN'S HEALTH CONCERN: ISSUES REVISITED; SPECIAL REFERENCES FROM ANCIENT TEXTS

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ABSTRACT
After the announcement of World Health Organization in 1872 that every individual has right to the maximum health; mother and child care issues are as fundamental as others; then the entire world started thinking about women's health; but in India where Vedic texts are considered as first recorded history of human life; there some rituals, ceremonial performances were found regarding women's health. In those texts women's health is concerned but not as mentioned as in the international laws. Here through rituals, customs some very important issues regarding mother and child care were discussed. The primary concern of the ancient thinkers was the welfare of the state so for the wellbeing of the state they want to build a healthy society which corners or pillars are made of by men and women; so in order to make a healthy life everyone should lead their lives according to the commands of the precepts. Certain healthy habits at younger age can help women to keep active and healthy till old age. It will help not only women as well as their families and society too. In this study it is tried to enlighten the views of ancient thinkers. This article was mostly based on the secondary resources where mainly Vedic and Puranic texts and their explanatory notes are taken as references.

Keywords: Women, Health, Rights, Vedic & Puranic Texts, International Law.

1. INTRODUCTION
In 1872 the World Health Organization (WHO) announced every individual has the right to the maximum health; here first time women and child health became concern. The constitution of WHO declared for development in health related issues for women around the world along with gender studies. In the report of Director General of WHO the death rate among children is identically higher, 99% of the five laces annual deaths happen during child birth in the embryonic countries. In this report sexual and reproductive health is vital to women's welfare and at the same time harmful behaviour during sex may cause bad effects to women's in their later life. Therefore certain healthy habits at younger age can help women to keep them active and healthy till their old age. It will help not only women as well as their families and society too.

Now the question arises that what was the status of women's health before 1872? Was there any case of unease regarding women's health? The answer is quite positive for women because our ancient texts like Veda, *Vedangas* and polity literature (*Dharmasastras*) are closely connected with duties and responsibilities of every individual; these duties are used to assimilate with rituals or ceremonies, in *Grihya Sustras* and many other texts of *Dharmasustras* these types of duties are often found where mother and child care issues were discussed. Our ancient thinkers gave their views in their own way but all are very helpful guidelines till today.

2. PURPOSE
The main motto of this study is to explore the ideas of our ancient Indian thinkers regarding women's health. WHO is not the first who was concerned about women's health but our ancient thinkers explained their view regarding this. They were not stated those issues in the way WHO established or in favour of these some Acts were amended but those thinkers primary concern was the welfare of the state so for the wellbeing of the state they want to build a healthy society which corners or pillars are made of by men and women; in order to make a healthy life everyone should lead their lives according to the commands of the precepts. Through this study it is tried to enlighten those views of ancient thinkers.

3. METHODOLOGY
The entire study based on secondary sources. Among them the first one is Vedic and *Puranic* texts with its explanatory notes by the eminent academicians and several articles published in knowledge based journal and books by scholars. This study is also highly influenced by the innovative writing of different writers. Few references are taken from different websites.

4. FINDINGS & OBJECTIVES

Every nation has its own culture, in India Vedic texts are considered as first recorded human history in respect of world literature. According to *Dharmasutra* and Griyasutra which are mostly embraced in the same category and technically known as *Kalpa*, an auxiliary text to understand Veda, where various customs and practices are recorded which aimed to regulate the lives of people; here almost all important aspects of life are discussed. Those apparently insignificant texts gave the most reliable reports of the ancient Indians in the forms of rules and edicts. According to the Vedic texts marriage is the most important part of life and to make it successful everyone should need to follow the rules and edicts of life as prescribed by the ancient sages. Some injunctions are perceived in the *Grihya* Sutra for women in the crisis of their life. These sutra texts have also mentioned some rituals for women and child regarding pregnancy and before and after delivery.

Here some such observations are as follows:

i) *Caturthikarmana*: this description is found in the case of conception, actually this is a religious right to stimulate reproduction system in humans; for that some rituals or sacrifice may perform.[1]

ii) Some observations for women in menses even for couples were found. *Pumsavana* and *Simantonnayana* were performed after confirming the pregnancy.[2]

iii) According to *Jaiminiya Grihya Sutra*[3] *Nyagrodha* juice should be given to the wife by her husband if they have desire for boy child but for girl child that should not mandatory. But in all cases the wife should think of her husband, family and would be child not for herself.

iv) *Sosyantihoma* and *Ksipraprasavana* were performed in the time of delivery; where some herbs were used to be given to that pregnant woman.

v) The *Jatakarmana, Ayusa* or *Asuya-homa, Abhimarsana* and *Prasana, Medha-Janana* – these rituals were performed after child's birth. All these rituals are related in plea of child's birth and his or her healthy long life.

vi) Breast feeding was also prescribed in *Kathaka Grihya Sutra*[4] as a rite of *Santanapradana* where father of the child should chant a mantra praying for dynamism, opulence, wealth and spiritual luminosity.

Besides those some details regarding delivery of women were found in different sutras[5].

Few such examples are given here –

- Specific mantras are found which were usually recited by the father of the child if the placenta is not separated.
- In *Hiranyakesi Sutra*[6] another interesting prayer was found that the child be fully developed with all the ability of sense organs like *Jnanendriya* and *Karmendriyas.*
- Abortion was treated as impure work and it is punishable equal to the number of months of pregnancy-this view was found in *Boudhayana Dharmasutra*[7].
- Killing of foetus was counted as degrading crime or sin – as mentioned by Apastambha[8] in *Apastambha Grihya Sutra*.
- On the other hand if a wife refuses her husband at bed; she should be thrown away from the house.[9]
- Sexual relation was presided over by the set of laws; as per *Apastambha Dharmasutra* a student studying Veda could not have sexual relation, he might converse with women if necessary, never gaze at any stripped women or kiss.[10]
- Harmful sexual relation was accountable to *prayascitta* where every individual would solely liable to punish himself and this kind of violation of rules turned themselves towards death.[11]
- If anyone contravened with women or his wife the person decentring in a skin of donkey rambled for begging (*bhiksa*).[12]

- Our *Puranic* literature explicates quite generous to women. During the time of menstruation as per *Puranic* view all women are pure and they become more pure through this process; at that time they can worship God also. This belief was found in different *Puranas*. Above all according to *Puranic* texts if a woman was raped or hold against her will by any strong man she should not be derelict or perform any penitence because according to *Puranic* literature she would not be an impure rather her purity of mind would be as good as before[13.] This point is highly necessary because mental health is equally obligatory like physical. *Agni Purana* orate that a woman can never be sexually contaminated by men, they are not guilty and always be pure; after having normal month wise menstruation they become more chaste; any kind of sexual sin was performed with women that will be washed off.[14]
- Any kind of violence or killing a woman was strictly prohibited, in *Linga Purana*[15] it had been declared that all women are born from Goddess *Atri* so they are basically innocent and should be protected even in case of a blemished wife or women[16]; because the husband or men are also born from the womb of a women so the women deserve protection and care.

5. ANALYSIS

As we all know that human rights are internationally protected; so it's our duty to protect ourselves through the rights towards the welfare of the nation; these actions may procreate evolution. The World Health Organization had declared health improvement for women around the world is needed, especially for mother and child health care issues should be concerned in this regard. If we go through the observations of the ancient thinkers it may be said that the rules and regulations were made by them by performing rituals and ceremonies can be considered as rites of health of women and child in ancient India. They thought at different junctures of life various types of *Samskaras* (rituals) may expunge the evil power from everyone's life and made every individual pure and perfect. Pre-birth and post birth rituals indicated the concerns about physical health of mother and child, those prayers are spectator of such fervent. Another noticeable point that they were not only concern about the physical health but also gave emphasis on mental health. Their considerate views regarding this issue entail appreciation. Almost all the rituals were destined for definite purpose; the main worth was pedestal on revere.

In 19th century the mother and child welfare rites was commenced as an Act but before that our ancient thinkers sketched their views in regard; actually the international law didn't deal with human relationship or psychological parameters, which vary between countries to countries and their citizens, but *Dharmasutra* had portrayed men and women as member of entire society. Indian culture is – to obey entire world as your family (*basudhaiva kutumvakam*) so that here individual was not separated from the social duties and responsibilities. Vedic thought was human relations had been measured in terms of duties than rights. In the entire Vedic literature no such word can found in terms of rights; but when duties and responsibilities are defined rights are automatically inferred.

6. CONCLUSION

The aim of World Health Organization (WHO) for women's health and related topics must be considered and implied as code of conduct in the entire world; in 21st century some consistent performances have been rehabilitated into legal rights i.e. breast feeding, maternity and child welfare, victims of violence related issues should be précised as women's right. Besides these international laws it can be said that our ancient texts like Dhamasutras and other Vedic texts women's health was discussed but it was not prioritized mostly in various chapters of Dharmasustras like Achara, Vyavahara, Prayaschitta etc; there child care got maximum priority. It can be concluded that regarding women's health issues woman herself, her husband and other family men have the entire responsibility to take care of her and her basic needs and healthy relationship between men and women can fabricate a better society where besides health issues respect should be given to every women should be taught because unless you cannot give respect to a woman you cannot unease her necessity or health.

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ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

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5. Apastambha Grihya Sutra, 5.14.14
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IMPACT OF WORKING HOURS ON EMPLOYEE'S PRODUCTIVITY IN EDUCATIONAL INSTITUTIONS

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ABSTRACT

An employee plays an important role for every organization, without employees it is difficult to survive or to growth. As we all know that employee's satisfaction depends upon the working hours and the facilities offered by the Organization. This research basically focused on how working hours of employees create a huge impact on his productivity. In this research paper, hypothesis is made in order to analyse the relation between number of working hours and productivity of employees in educational institutes. This paper also analyses the effect of positive motivational techniques on productivity, if working hours increased. This research is based on primary data that include questionnaire with data interpretation. Research also includes findings, suggestions, and conclusions. The result of paper suggests that the employee have higher productivity if numbers of working hours are less and vice versa.

Keywords: Working hours, productivity, output, educational institutes.

INTRODUCTION

Productivity- Productivity can be defined as the output produced from the input used i.e., factor of production. Productivity determines the efficiency of people, machine, system etc.

It is stated that labour productivity depends on the working hours of labour. This case not only applies on shop floor level workers but also on employees. It is equally applicable to the regulation of working hours in educational institutes. Many researchers are made on effect of working hours on work life balance, labour productivity, health centre workers, call centre workers and many other employees, but the sector of education is still untouched.

This paper provides a comprehensive insight in relation between working hours and productivity. It also emphasises on determining the output or productivity when positive motivation is applied, if there is increase in working hours.

To survive in this dynamic environment, institutions have to adopt changes. In recent trends, there are various diversification in the organisation related to working time.

These changes blame that working hours plays an important role in determining the productivity. This research is done to evaluate the aspect of working time, which is new trend that can affect an institution. It will help in taking innovative decisions related to development of policies and rules regarding arrangement of working hours.

THE RELATIONSHIP BETWEEN EMPLOYEE'S MOTIVATION AND PRODUCTIVITY

There is a positive relationship between the motivation and productivity. Employees need facilities, salaries, and extra benefits but also want appreciation.

"Motivation and productivity are twin concepts in organizational development. First, motivation works as the means toward attaining productivity as an end. Another point: Motivation is the best cause to reach productivity as a favourable effect. Lastly, motivation is the stimulus to trigger productivity as a response. All these are concrete connections between the two factors."

There are two basic ways to motivate a person. One is through extrinsic motivation or material satisfaction, and the other is through intrinsic motivation or providing intangible rewards. With the economy the way it is and the companies goals of cutting costs, it would make more sense for the companies to reduce their costs by developing an intrinsic strategic, instead of obliterating all costs to scrap all motivation strategies. Researcher observe that removing all methods of motivation and thus

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

reducing overall productivity can have a more costly effect on the company's bottom line than if they maintained a small level of intrinsic motivational strategies.

There are some additional benefits to increasing motivation than just increased productivity. You can also benefit from the following results:

- Improved Morale
- Lower Absenteeism
- Higher Retention Rates
- Improved Bottom-Line Results

REVIEW OF LITERATURE

Sarah Holly and Alwin Mohnen have showed in their paper that employee do not have any issue related to the increased working hour, if they will get benefits for overtime.

According to Ng Chi Man and Tsang Wan Ling (2014), the effect of working hours on productivity is different in managerial and non-managerial level. Hus research paper concluded that productivity differ in two industries that is food services and information industries in Hong Kong.

Schein Virgina, Maurer Elizabeth, Novak (1977), have shown through their study on "Impact of flexible working hours on productivity", that there is less impact of flexible hours of working on the productivity of employees. Employee find easy in working in flexible hours.

Marion Collewet, Jan Sauerman (2017) stated in their paper "Working hours and productivity", that if the fatigue will affect the productivity of employees even if they are part time worker, but fatigue reduce in weekend due to less work in call centres.

V Johnson and V Lipscomb concluded in their paper that if working hours are extended or irregular then it will cause fatigue, ill effect, smoking and other chronic effect.

Jon Messenger stated in his research paper that the technological trend has given birth to minimising working hours in workspace that resulted in increased output and productivity.

According to Tsai & Ching C.C., (2010) in a service industry employee has to do overtime and for long duration with low income then there will no commitment for the job then it will reduce the productivity of employee directly which will influence the organisational commitment.

Noll (2014), analysed the factor which affect in the productivity of employee. Findings of his research have shown the factors such as motivation, working environment and relationship with administration affect the productivity of employees in educational institutes.

GAP ANALYSIS

Different factors are analysed in previous researches, this research is distinct on the basis of these factors:

1. Productivity in the case of educational institution is qualitative hence it is difficult to measure.
2. Productivity varies from person to person, due to different other factors also.

RESEARCH METHODOLOGY & DESIGN

Objectives

- To analyse the effect of working hours on productivity
- To examine whether various factor such as motivation factor increases productivity.

Significance

Educational institutions have a vision to transform the raw material that is student into a responsible individual who can use their full potential to achieve its future goals. This could only be possible if the employees of educational institutions direct their efforts efficiently thus to maintain the productivity of employee, institutions have to make policies regarding working hours. This research helps in analysing the effect of working hours on productivity.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Scope

1. The research focuses on the productivity of employees.
2. The research has considered the factors that can improve the productivity.

Hypothesis

H_n= There is a noteworthy relationship between number of working hours and productivity of employees in educational institutions.

Sampling design

a) Population: Population of this research paper is the employee of the educational institution of Jaipur, Rajasthan.

b) Sampling Size: For this study, 50 employees have filled questionnaire from which 35 was purposeful. The sample has been collected from private institutes.

c) Sampling Techniques: Convenience sampling technique is used for this research. Employees are selected according to convenience. Likert scale is used to measure the productivity through survey questions.

Data Collection

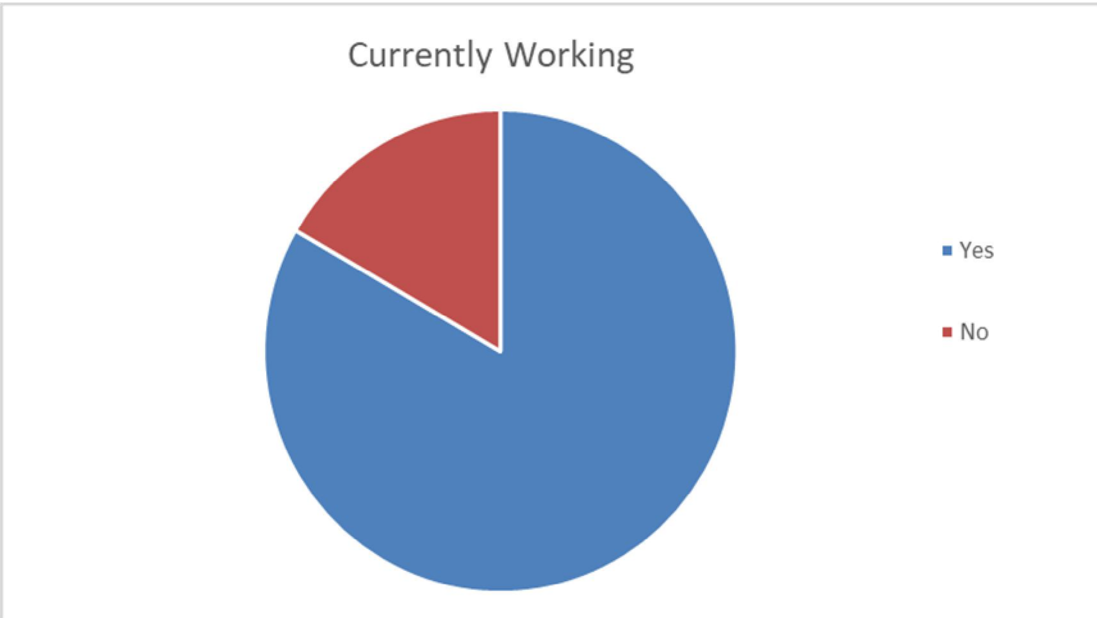
For this research, data is collected through primary research. This primary data is collected through employees of private educational institute, through well-structured questionnaire.

Limitations

- The research has considered education institutes only.
- Related to existing and regular employees.
- This study has limited sample size.
- Some employees can hide the real and factual information as some organisation resistant to share their true opinion.

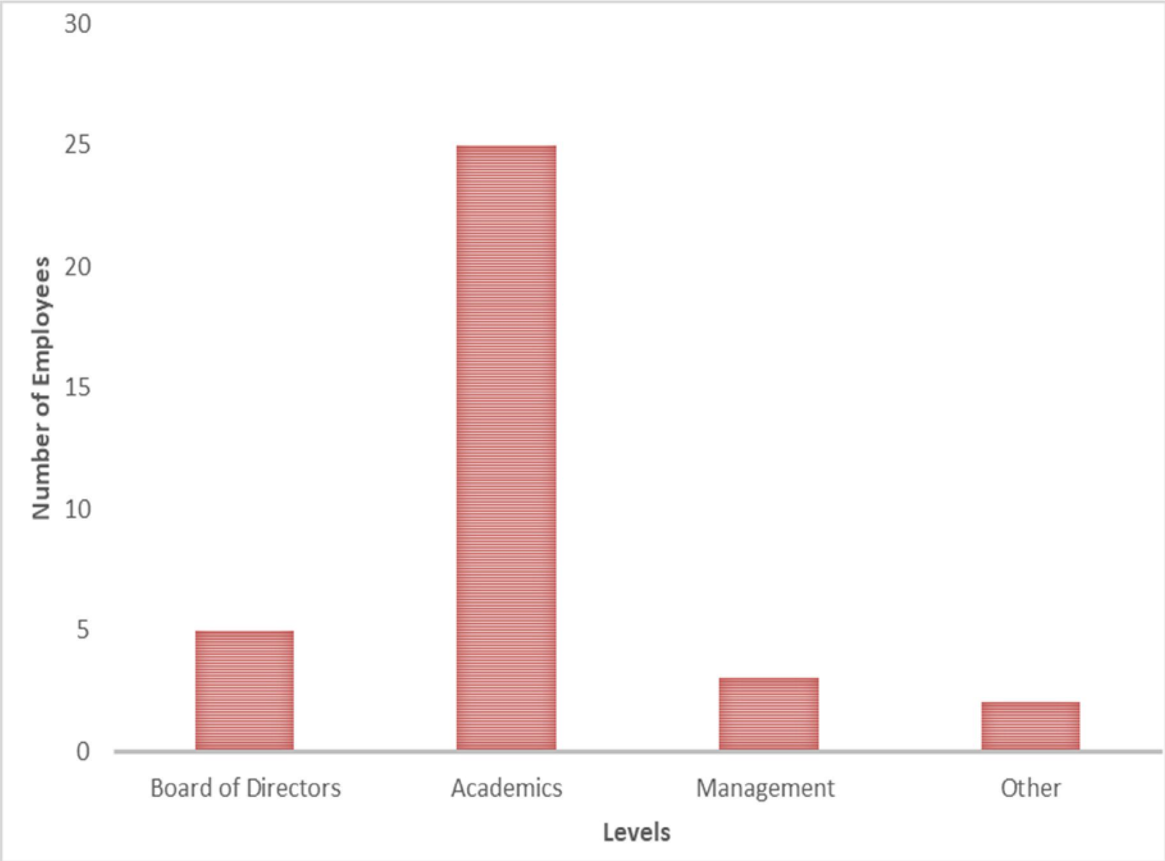
DATA ANALYSIS AND INTERPRETATION

Q1. Are you currently working?



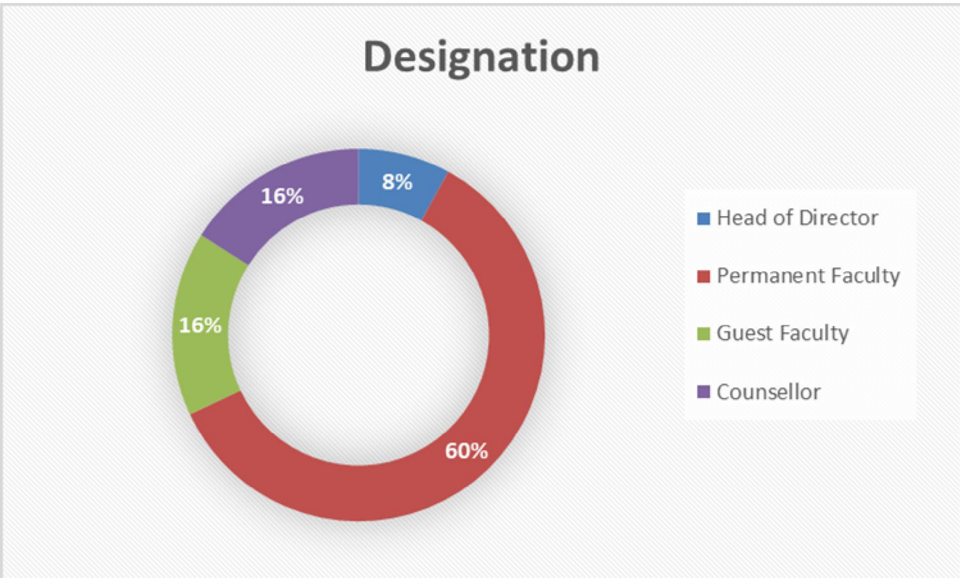
Data Interpretation: This pie chart depicts the employees who are currently working through blue colour and employee who are not currently working through orange colour.

Q2. At what level are you working?



Data Interpretation: This bar chart depicts the different level of organisation from which the respondents belong. The level is categorised into four parts that are BOD, academics, management and others. This data interprets that majority of respondents belons to academics.

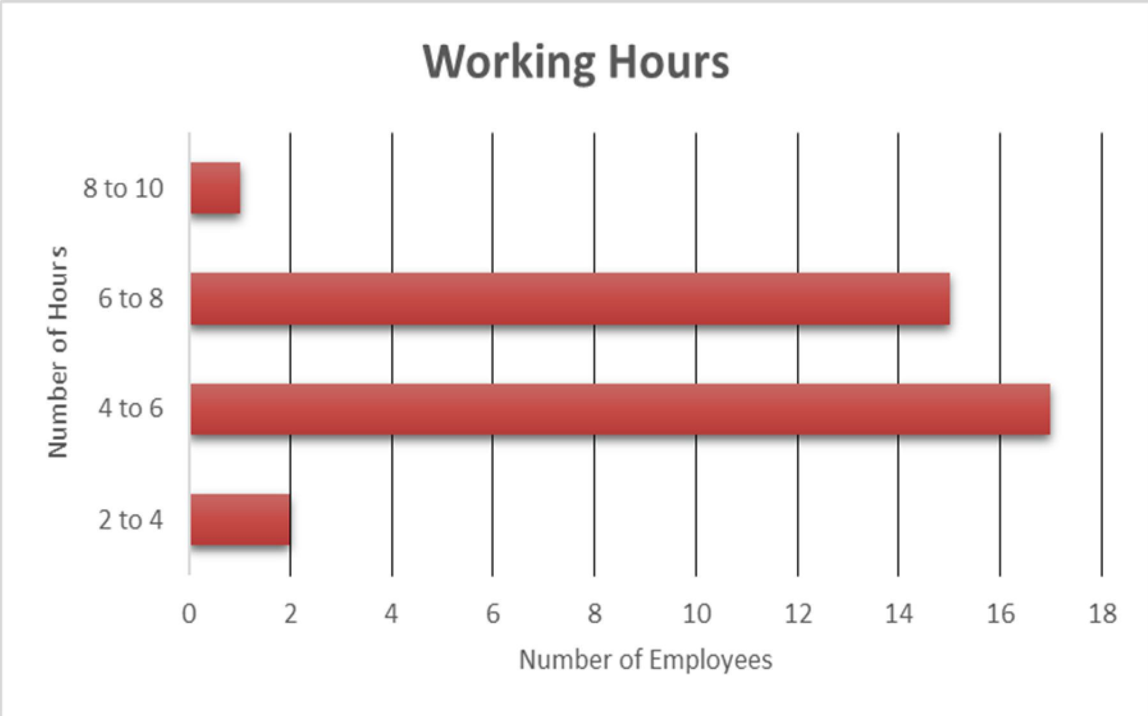
Q3. In academics, what is your designation?



Data Interpretation: This pie chart depicts the different level of organisation in academic field from which the respondents belong. The level is categorised into four parts that are HOD, permanent faculty, guest faculty, counsellor.

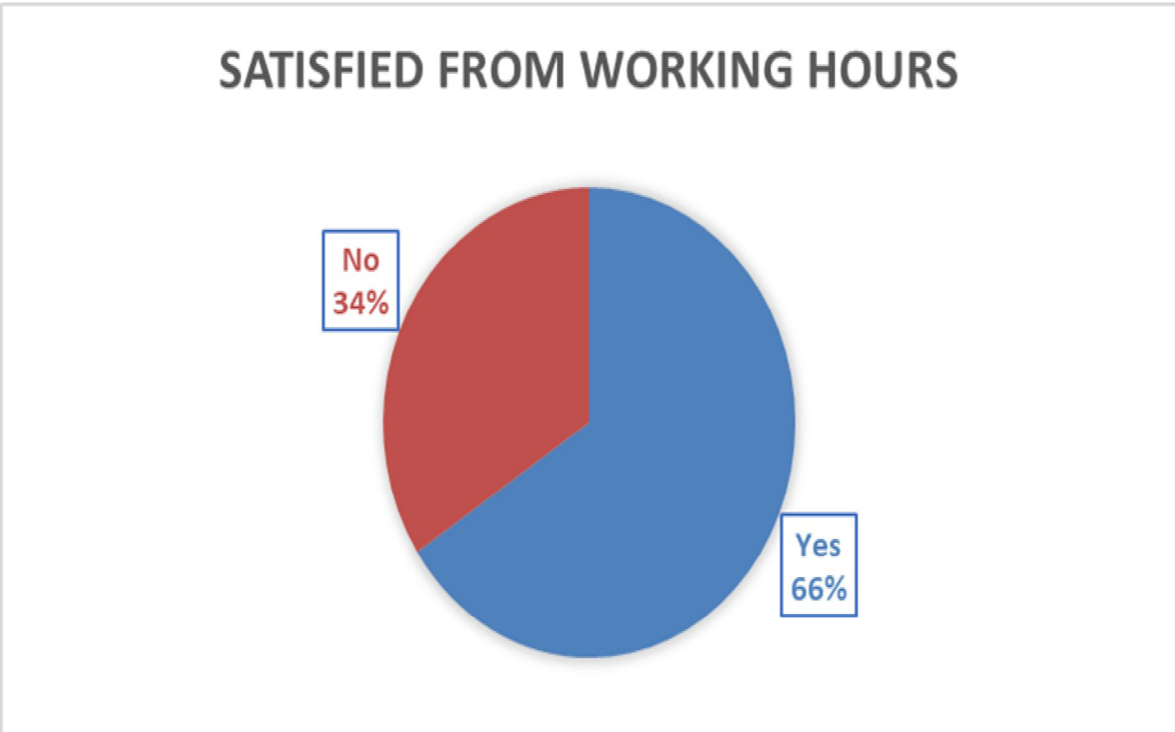
ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Q4. What is the duration of your working hours?



Data Interpretation: This bar chart depicts the number of working hours, the respondent works. The level is categorised into four parts that are 2to4, 4to6, 6to8, 8to10. This data interprets that standard working hours in education institutes are 4to6 hours.

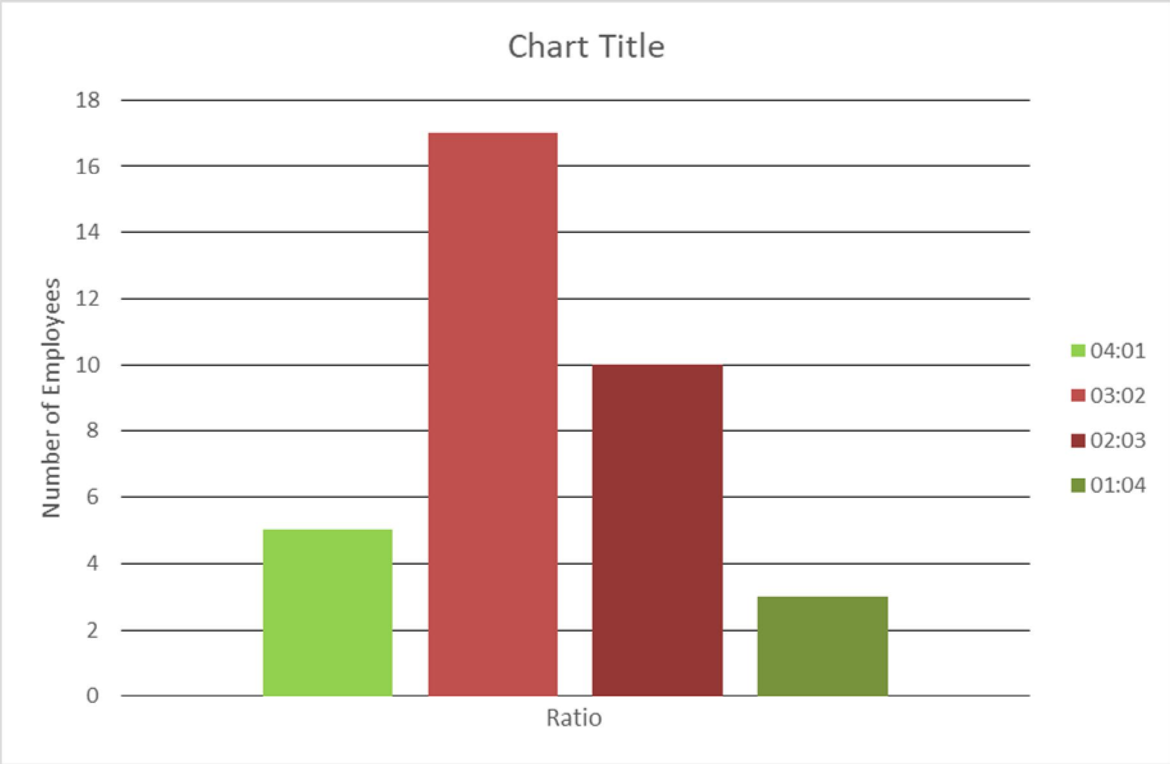
Q5. Are you satisfied from your working hours?



Data Interpretation: This pie chart depicts the employees who are satisfied from their working hours through blue colour and employee who are not satisfied through orange colour. This data interprets that majority of employees are satisfied from their working hours.

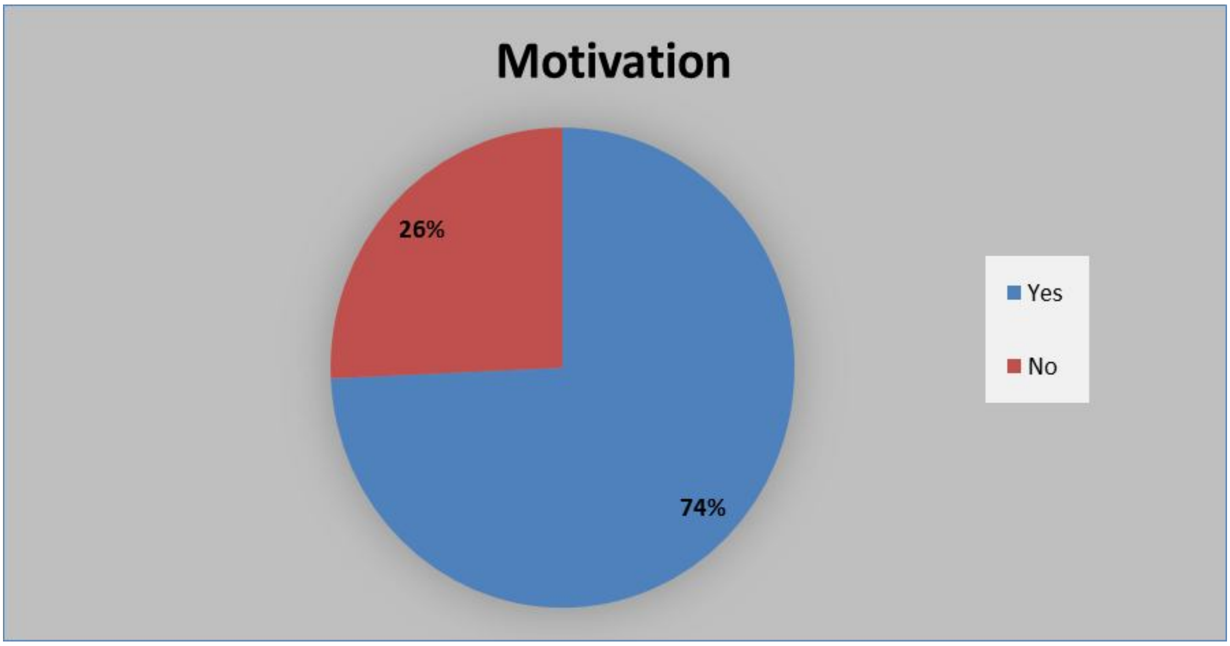
ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Q6. In what ratio you will divide your productive and unproductive working hours respectively, within your total working hours?



Data Interpretation: This bar chart differentiate work into two categories that are productive and unproductive. The employees differentiate their productive and unproductive work through ratios respectively. This data interprets that majority of employees are performing 3:2, Productive and unproductive work respectively.

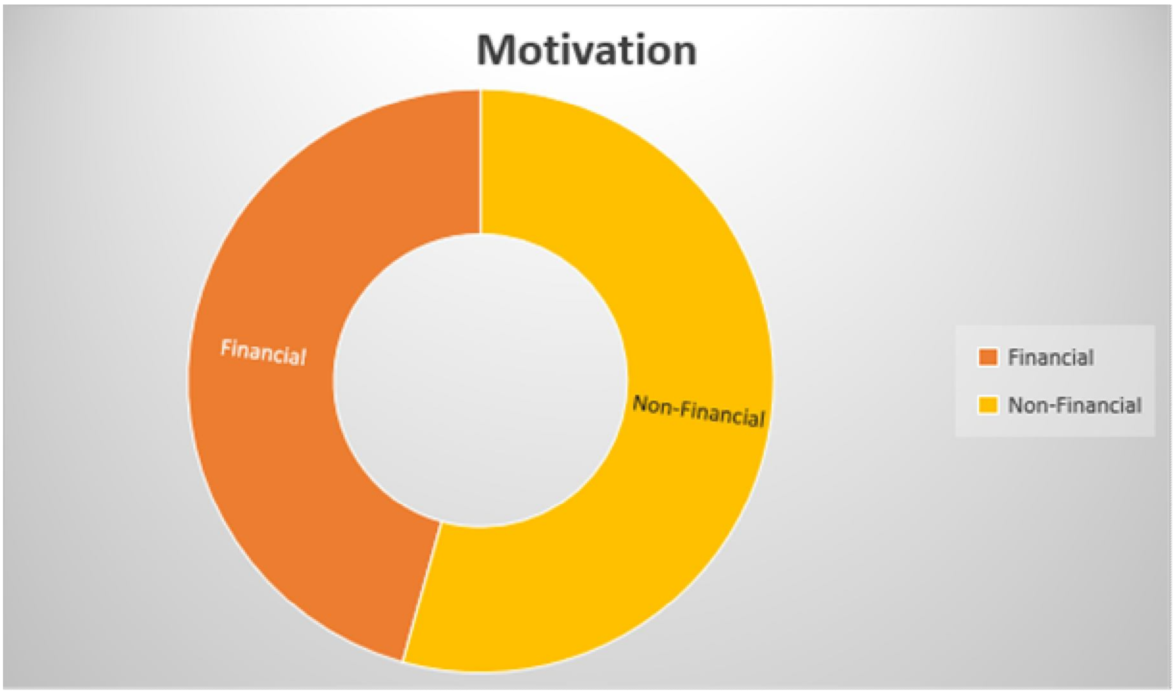
Q7. Did your organization continuously motivate you?



Data Interpretation: This pie chart depicts the employees who are motivated by their employers through blue colour and employee who are not satisfied through orange colour. This data interprets that majority of employees are motivated for their work.

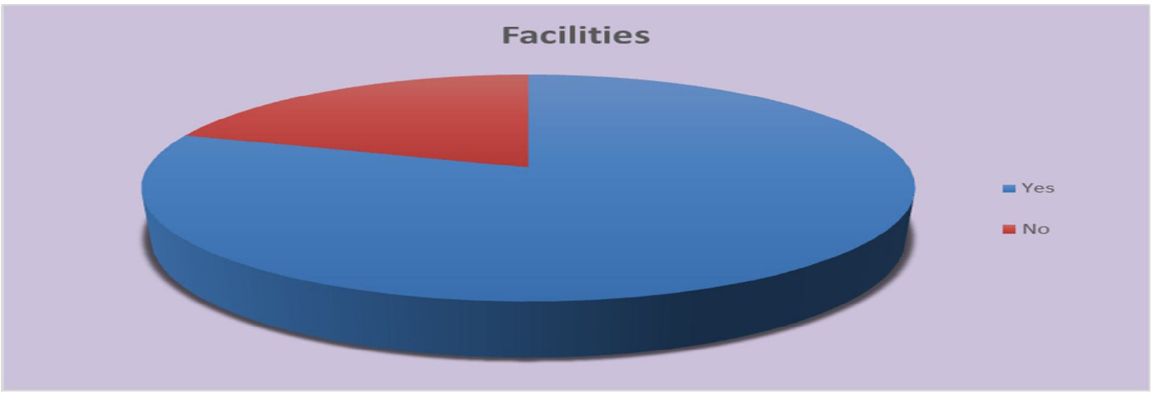
ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Q8. What type of motivation they provide?



Data Interpretation: This pie chart depicts the employees who receive financial motivation through orange colour and employee who receive non-financial motivation through yellow colour.

Q9. Do they provide training and development facilities?

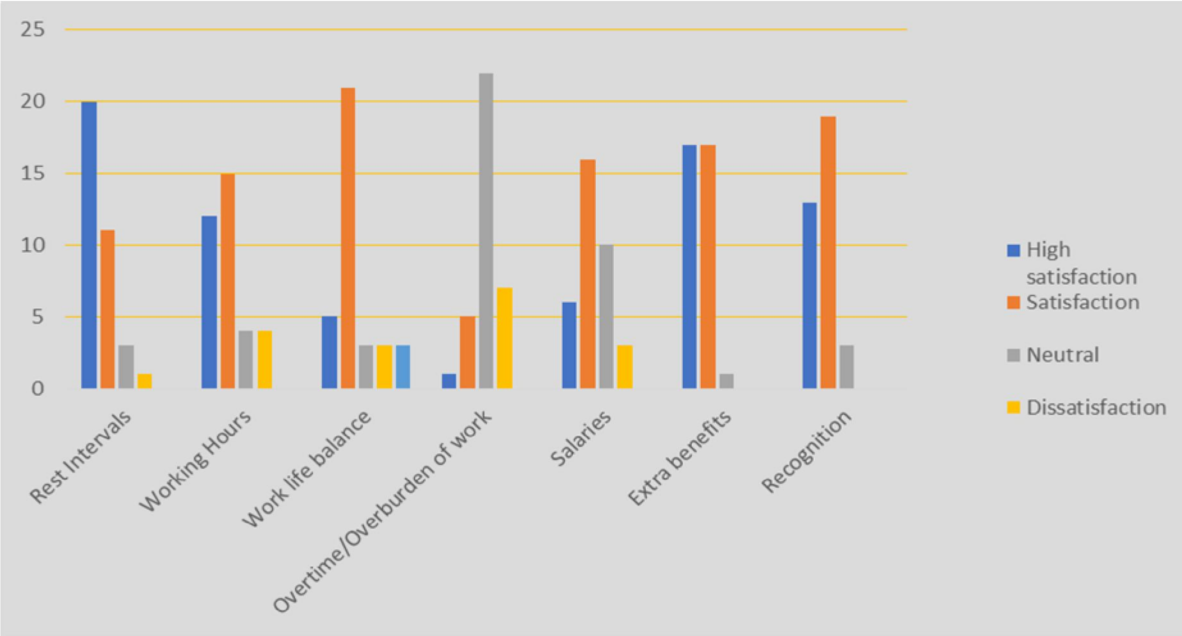


Data Interpretation: This pie chart depicts the employees who are getting training and development facilities through blue colour and employee who are not getting those facilities through orange colour. This data interprets that majority of employees are getting training and development facilities, which is also a source of motivation and will help them in being productive.

Q10. Tick on the following statements-

Statement	Highly Satisfactory	Satisfactory	Neutral	Dissatisfactory	Highly Dissatisfactory
Satisfied from rest intervals	60	30	7	3	0
Working hours in a day	35	43	12	10	0
Work life balance	13	60	17	8	2
Overtime/Overburden of work	4	13	64	12	7
Salary/increment/bonus	16	46	30	8	0
Completion of syllabus	49	47	4	0	0
Administrative work	36	55	9	0	0
Current working experience	39	50	7	4	0

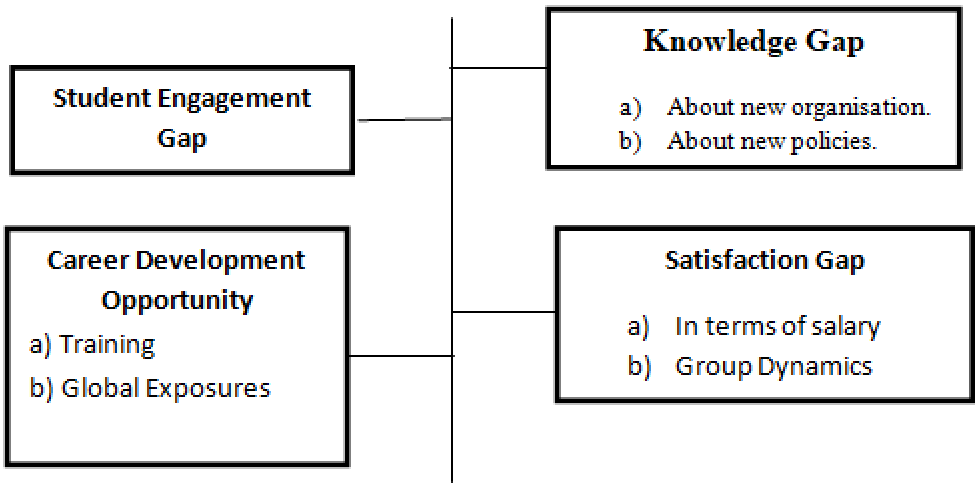
ISSN: 2394-3114
Vol.40-Issue.89-March, 2020



Data Interpretation: This graph shows that a large number of people are facing overburden of work, which would directly or indirectly affect their productivity level. Positive aspects have been shown through study that employees are able to maintain work life balance and employees are satisfied with their extra benefits and recognition.

ROAD MAP AHEAD

This topic is restricted to some area but this research study is useful for student, researcher, and other institutes nationally and internationally. This topic is based on some aspect but there are various aspects to expand the study.



FINDINGS

- Working hours are more than mentioned in appointment letter.
- Employees are facing overburden of work.
- Fear of termination.
- Employee expects positive motivation rather than negative.

SUGGESTIONS

- There should be open survey for employees.
- Policies should be accurate and transparent.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

- There should proper plan of action to reduce overburden.
- Verbal or Written Recognition of Achievements
- Say “Thank You”, “Great Job”, or “Well Done” to show you appreciate their hard work.
- Promote from Within Your Company
- Create Informal Leadership Roles
- Consistently Provide Development Opportunities

CONCLUSION

Productivity is the most impactful element for achieving success for any institution. As F.W. Taylor has also stated that fatigue is an important factor that affects the productivity. If employees work regularly for a long time, he/she will feel fatigue which will affect productivity.

In this research, it is identified that working hours directly have an impact on productivity. Researchers found through this research study that employees are facing overburden of work and excess hours of working, but this can be balanced if they will be provided positive motivation. If employees feel associated and motivated then they will become more productive. Their productive efforts will contribute in transforming student into a self-reliant citizen of developing country.

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PERSONALITY FACTORS IN PHYSICALLY CHALLENGED SCHOOL GOING CHILDREN

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ABSTRACT

This study aims at assessing and comparing physically challenged school going children on personality factors. The sample comprised of 180 physically challenged children who included equal number of visually impaired, hearing impaired and orthopedically crippled school going children selected from various private and government schools of rural and urban areas of Kashmir. Pertinently these schools offered access to educable children with disabilities. Purposive sampling was used for selection of the sample. Personality factors in physically challenged school going children were assessed using Potter and Cattel's Children's Personality Questionnaire. Mean, standard deviation and t-test were used to statistically analyse the data. Results revealed a significant difference in visually impaired and hearing impaired school going children on personality factors A, B, C,F,G,H, J, N, Q^3 and $Q^{4.}$ Hearing impaired and orthopedically crippled school going children differed significantly on factor A, B, G, H, N, O, Q_3 and Q_4. Visually impaired and orthopedically crippled school going children differed significantly on factor C, F and H of Personality Questionnaire. Hearing impaired children performed poorly while as better performance was noticed in visually impaired children on personality factors. Orthopedically crippled school children exhibited submissive personality in comparison to their counterparts.

Keywords: physically challenged, personality factors, school going children

INTRODUCTION

School going children possess a large chunk of the world's population. Though it is a known fact that all children are different and possess a distinct personality, still there exist a widespread unawareness about it. In the school going population of children we cannot afford to neglect children who are facing challenges with the day to day routine. Though children with the physical challenges are more creative and imaginative they are less likely to attend school than non-disabled children.

Education completion gaps are found across all age groups in all settings, with the pattern more pronounced in poorer countries. Even in countries where most non-disabled children go to school, many children with disabilities do not go to school. For example in Bolivia about 98% of non-disabled children go to school, but fewer than 40% of disabled children attend school. In Indonesia, over 80% of non-disabled children go to school, but less than 25% of children with disabilities go to school(World report on disability,2011)

They are generally considered as most backward; least bothered about and remains highly neglected. The growth of personality faces many challenges not only due to the disability or impairment by which they are suffering but also from their families, peers and friends. (Snyder, Kleck, Strent and Mentzen, 1979).

Disabilities also affect the psychogenic needs of the individuals as congenitally blind children have more need for achievement, autonomy change and endurance (Sharma, 1994) as compared to non-handicapped children (Bharadwaj, 1999) .

Undeniably there are variations in their temperament and emotions controlling capacity of all individuals. The evaluation of these and other personality traits helps in prediction of a person's behaviour in distinct contexts. These behaviour predictions are quite beneficial in dealing with a person with disability. These children are surrounded by the challenges and limitations that have a definite impact on their lives. Among the different attributes personality is affected to a large extent. Resultantly making the children tend to have negative scores on their personality trait evaluation.

OBJECTIVES

To assess and compare the personality traits in visually impaired, hearing impaired and orthopedically crippled school going children.

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METHODOLOGY

This descriptive study was conducted on a sample of 180 physically challenged children that included 60 visually impaired, 60 hearing impaired and 60 orthopedically crippled 12 – 16 years old school going children selected from both government and private schools in Kashmir. In this study an attempt has been made to assess the physically challenged school going children seeking education in the integrated or normal schools along with their normally developing peers. Children personality questionnaire (1979) constructed and standardized by Potter and Cattell was the main tool employed for measuring the personality traits in the target group. It is a test, the whole design of which is aimed at giving the maximum information in the shortest time about the greatest number of dimensions of personality. The present test is primarily intended for an age range of eight through twelve. It measures a set of fourteen factor ally independent dimensions of personality. These dimensions are identified and referred to by letters of the alphabet, A through Q_4. In addition to the symbols, they have technical names, which give the most accurate meaning to them in the light of present psychological knowledge. The full factor by factor description of each of the fourteen dimensions is given below in table 1.

Table-1: Primary Source Traits Measured By CPQ

Low Score Description	Factor	High Score description
Reserved, Detached, Critical, Cool, Aloof (Sizothymia)	**A**	Warmhearted, Outgoing, Easygoing
DULL (Crystallized, power measure) (Low Intelligence	**B**	Bright (Crystallized, power measure) (High intelligence)
Affected by Feelings, Emotionally Less Stable, Easily Upset (Lower ego strength)	**C**	Emotionally stable, faces Reality, Calm, Mature (Higher ego strength)
PHLEGMATIC, Undemonstrative, Deliberate, Inactive, Stodgy (Phlegmatic temperament)	**D**	Excitable, Impatient, demanding, Overactive, unrestrained (Excitability)
Obedient Mild, Accommodating, Easily led (Submissiveness)	**E**	Dominant, Assertive, Competitive, Aggressive, stubborn (Dominance)
Sober. Prudent, Serious Tacitum (Desurgency)	**F**	Enthusiastic, Happy-go-lucky, Heedless (Surgency)
Expedient, Disregards Rules (Weaker superego strength)	**G**	Conscientious, Persevering, staid, Rule-bound (Stronger superego strength)
Shy, Threat-senstitive, Diffident Timid (Threctia)	**H**	Venturesome, Socially Bold, uninhibited (Parmia)
Tough-minded, Self-reliant, Realistic, No-non sense (Harria)	**I**	Tender-minded, sensitive over-protected (premsia)
Zestful, Likes group Action, Vigorous (Zeppia)	**J**	Circumspect Individualism, reflective, internally Restrained (Coosthenia)
Forthright. Natural, Artless, Sentimental (Artlessness)	**N**	Shrewd, Calculating, Artful (shrewdness)
Self-Assured, Confident, Secure, Complacent (untroubled adequacy)	**O**	Guilt-prone, Apprehensive, worrying, troubled, insecure (guilt proneness)
Undisciplined Self-conflict, Follows Own Urges, Careless of Social Rules (Low Self-sentiment integration)	**Q_3**	Controlled, Socially Precise, Following self-image, compulsive (High self-concept control)
Relaxed, Tranquil, Torpid composed Unfrustrated Low ergic tension)	**Q_4**	Tense, frustrated, Driven, Overwrought, Fretful (High ergic tension)

Source: Handbook for the children's personality Questionnaire (CPQ) Porter & Cattel (1979)

REVIEW

Nazir *et al* (2017) assess and compare the rural/urban physically challenged and normal school going children on personality factors. The sample comprised of 360(180 physically challenged and 180 normal school going children) selected from various private and government schools of rural and urban areas of districts Anantnag and Srinagar. Purposive and random sampling was used for the selection of physically challenged and normal school children respectively. Children's Personality Questionnaire by Potter and Cattel (1979) was the tool used for assessing the personality factors in physically challenged and normal school children. Data was statistically analyzed using mean and standard deviation and t-test for significance of difference between means. Results revealed a significant difference in physically challenged school going children and their normal peers on personality factors.

Syeda *et al.* (2016) compared the personality traits of physically disabled and normal students. 100 upper and lower limbs physically disabled students from Kingston School Inclusive Education System Abbotabad and 100 normal students from various schools of Abbotabad, Haripur were purposively selected for the present study. Goldberg five big personality traits scale was used to measure the personality of the sample. Results indicated a significant difference on personality between physically disabled and normal students. Normal students attained a high score on personality traits as compared to the physically disabled students.

Oyewumi *et al.* (2013) conducted a study on personality factors as correlates of perceived quality of life among 75 adolescents with hearing impairment in four special secondary schools in Lagos State, Nigeria. The Rosenberg Self-Esteem Scale, World Health Organization (WHO) Quality of Life Scale and the Washington University School of Medicine Quality of Life Questionnaire for Adolescents were the main tools employed in the investigation. Analysis was done through descriptive and inferential statistical treatment. The findings revealed that the impact of personality factors accounted for 14% of variation on the perceived quality of life among hearing impaired adolescents. Results also indicated a considerable influence of onset of "hearing loss" and an insignificant influence of gender on perceived quality of life among adolescents with hearing impairment.

Bhardwaj (2010) analyzed the personality factors and self-concept of selected nature and degree of disabilities classified into blind, partially blind, deaf, hard of hearing, upper and lower extremity affected orthopedically crippled (12-15) year's old boys. A group of 300 subjects (50 in each category) randomly selected from various schools and rehabilitation centres of Punjab, Haryana, Delhi, M.P. and Chandigarh formed the sample for this investigation. High School Personality Questionnaire (HSPQ) was the main tool used for data collection. Results revealed a significant difference in personality factors among the sample groups. Orthopedically crippled students were found to be more out-going, warm hearted, participative, over-active, lively, impatient, assertive and independent. Visually impaired children were less out-going, highly intelligent, demanding, impatient and inactive. Likewise, the hearing impaired children possessed personality traits like emotional stability, intelligence, assertiveness, independence and obedience.

Garaigordobil and Bernaras (2009) examined the self-concept, self-esteem, other personality traits and psychopathological symptoms in 12-17-year-old 90 adolescents (61 with no impairment and 29 with visual impairment). The findings indicated no significant difference in self- concept and self-esteem of the study groups however, adolescents with visual impairment scored significantly higher in various pathological symptoms. Visually impaired girls obtained a low score in self-esteem but a high score in various psychological symptoms i.e. low hostility, low psychotism, high extraversion which were identified as predictors of high self- esteem.

Sangeeta (2006) conducted a study on personality traits of the visually challenged. The main objectives of the study included assessment of self-concept, locus of control and mental health of 460 visually impaired and 230 sighted students of class VII to X studying in the residential schools for blind and in general schools of Haryana, Delhi and Chandigarh. Mohsin's Self-concept Inventory, Rotter's I-E Scale Hindi Adaptation, Eysenck's Personality questionnaire and Cornell Medical Index – Health Questionnaire were the major tools used in the study. The findings revealed that the visually impaired boys possessed a better self-concept than the sighted ones. With respect to personality traits the visually impaired boys were found to have a feeling of inadequacy and depression, they were likely to be more sensitive, aggressive, tense and restless in comparison to their sighted peers. No significant difference on neuroticism and anxiety was found in the visually impaired and sighted boys.

Chaturvedi (2002) studied psychological makeup of visually impaired children and concluded that prolonged deprivation significantly influence the positive self-evaluation, integration of personality and total mental health of visually impaired children. Moreover highly deprived visually impaired children are having poor positive self-evaluation, poor integration of personality and low status of mental health.

RESULTS AND DISCUSSION

To determine the significance in mean and S.D. personality factor scores of physically challenged school going children t-test was computed. Given below are the tables that reflect the details.

Table 2: Mean and S.D. Comparison of Visually Impaired and Hearing Impaired School Going Children on Personality Factors A,B,C,D and E (N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
A	VI	5.00	1.13	3.94	$p \leq 0.01$
	HI	4.13	1.26		
B	VI	4.98	1.45	5.50	$p \leq 0.01$
	HI	3.73	0.98		
C	VI	5.12	1.47	4.96	$p \leq 0.01$
	HI	3.88	1.23		
D	VI	4.32	1.43	1.71	$p \geq 0.05$
	HI	3.92	1.10		
E	VI	3.62	1.39	1.48	$p \geq 0.05$
	HI	4.00	1.43		

VI =Visually Impaired

HI =Hearing Impaired

The comparison of visually impaired and hearing impaired school going children with N=60 in each case on first five personality factors is depicted in Table 2 .The results revealed that the two groups i.e., visually impaired and hearing impaired school going children differ significantly on personality factors A, B and C. More specifically the results indicated that in comparison to the hearing impaired school going children, the visually impaired school going children were warm hearted, intelligent and emotionally stable whereas, their hearing impaired counterparts were reserved, less intelligent and emotionally less stable. However, the two groups did not differ significantly on factors D and E of Children Personality Questionnaire (CPQ).

Table 2: Mean and S.D. Comparison of Visually Impaired and Hearing Impaired School Going Children on Personality Factors F, G, H, I and J (N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
F	VI	4.58	1.09	4.04	$p \leq 0.01$
	HI	3.63	1.24		
G	VI	4.87	1.21	4.44	$p \leq 0.01$
	HI	3.97	0.99		
H	VI	4.97	1.47	3.87	$p \leq 0.01$
	HI	3.97	1.35		
I	VI	6.27	1.62	0.54	≥ 0.05
	HI	6.10	1.71		
J	VI	4.68	1.83	4.19	$p \leq 0.01$
	HI	3.45	1.34		

VI =Visually Impaired

HI =Hearing Impaired

Comparison of visually impaired and hearing impaired school going children with N=60 in each case on the personality factors represented in table 2 revealed that the two groups differ significantly on F,G,H and J factors. In comparison to the hearing impaired school going children, the visually impaired school going children were sober, disregarded rules, shy, tender-minded and zestful whereas the hearing impaired children were serious, self-indulgent, withdrawn, tender-minded and zestful. However, the two groups did not differ significantly on factor I of Children Personality Questionnaire (CPQ).

Table 3: Mean and S.D. Comparison of Visually Impaired and Hearing Impaired School Going Children on Personality Factors N,O,Q_3 and Q_4(N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
N	VI	4.38	1.64	4.23	p≤ 0.01
	HI	3.28	1.15		
O	VI	5.23	1.83	1.48	≥0.05
	HI	5.73	1.84		
Q_3	VI	5.50	1.63	6.39	p≤ 0.01
	HI	3.78	1.29		
Q_4	VI	5.23	1.74	3.34	p≤ 0.01
	HI	6.22	1.47		

VI =Visually Impaired

HI =Hearing Impaired

Table 3 depicts the mean, S.D. and t-value comparison of visually impaired and hearing impaired school going children with N=60 in each case on last four personality factors of (CPQ).The results revealed that the two groups differ significantly on personality factors N, Q_3 and Q_4. More specifically in comparison to the hearing impaired school going children, the visually impaired school going children were forthright, controlled and tense. Whereas, the hearing impaired children were less forthright, uncontrolled and frustrated. However, the two groups did not differ significantly on factor O of Children Personality Questionnaire (CPQ).

Table 4:Mean and S.D. Comparison of Hearing Impaired and Orthopedically Crippled School Going Children on Personality Factors A, B, C, D and E (N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
A	HI	4.13	1.26	2.74	p≤ 0.01
	OC	4.78	1.32		
B	HI	3.73	0.98	3.89	p≤ 0.01
	OC	4.57	1.33		
C	HI	3.88	1.23	1.68	p≥0.05
	OC	4.27	1.26		
D	HI	3.92	1.10	0.99	p≥0.05
	OC	4.13	1.26		
E	HI	4.00	1.43	0.21	p≥0.05
	OC	4.05	1.14		

HI =Hearing Impaired

OC =Orthopedically Crippled

The comparison of hearing impaired and orthopedically crippled school going children with N=60 in each case on first five factors of Personality Characteristics revealed a significant difference in the two groups on factor A and B of Personality Questionnaire. More specifically the findings indicated that in comparison to the orthopedically crippled children, the hearing impaired school going children were less reserved and less intelligent. Whereas the orthopedically crippled school going children were more reserved and intelligent. However, the two groups did not differ significantly on factors C, D and E of Children Personality Questionnaire (CPQ).

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Table 5: Mean and S.D. Comparison of Hearing Impaired and Orthopedically Crippled School Going Children on Personality Factors F,G, H, I and J(N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
F	HI	3.67	1.24	1.47	p≥0.05
	OC	3.98	1.09		
G	HI	3.97	0.99	2.35	p≤ 0.05
	OC	4.55	1.64		
H	HI	3.97	1.35	1.35	p≥0.05
	OC	4.32	1.47		
I	HI	6.10	1.71	0.00	p≥0.05
	OC	6.10	1.71		
J	HI	3.45	1.34	2.74	p≤ 0.01
	OC	4.12	1.31		

HI =Hearing Impaired

OC =Orthopedically Crippled

Table 5 depicts comparison of hearing impaired and orthopedically crippled school going children with N=60 in each case on next five factors of Personality Characteristics. The data revealed a significant difference in the two groups on factor G and J of Personality Questionnaire. More specifically the results indicated that in comparison to the orthopedically crippled school going children, the hearing impaired school going children were more zestful and disregarded rules, whereas the orthopedically crippled children were less zestful and expedient. However, the two groups did not differ significantly on factors F, H and I of Children Personality Questionnaire (CPQ).

Table 6: Mean and S.D. Comparison of Hearing Impaired and Orthopedically Crippled School Going Children on Personality Factors N, O, Q_3 and Q_4 (N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
N	HI	3.28	1.15	3.08	p≤ 0.01
	OC	3.95	1.21		
O	HI	5.73	1.84	2.76	p≤ 0.01
	OC	4.85	1.64		
Q_3	HI	3.78	1.29	6.53	p≤ 0.01
	OC	5.38	1.39		
Q_4	HI	6.22	1.47	3.80	p≤ 0.01
	OC	5.18	1.50		

HI =Hearing Impaired

OC =Orthopedically Crippled

Table 6 depicts the comparison of hearing impaired and orthopedically crippled school going children with N=60 in each case on last four factors of Personality Characteristics. The data revealed a significant difference in the two groups on all four factors i.e., factor N, O, Q_3 and Q_4 of Personality Questionnaire. More specifically the results indicated that in comparison to the orthopedically crippled school going children, the hearing impaired school going children were more forthright, apprehensive, uncontrolled and frustrated. Whereas, the orthopedically crippled school going children were less forthright, self-assured, controlled and tense.

Table 7: Mean and S.D. Comparison of Visually Impaired and Orthopedically Crippled School Going Children on Personality Factors A,B,C,D and E (N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
A	VI	5.00	1.13	0.96	p≥0.05
	OC	4.78	1.32		
B	VI	4.98	1.45	1.63	p≥0.05

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	OC	4.57	1.33		
C	VI	5.12	1.47	3.39	$p \leq 0.01$
	OC	4.27	1.26		
D	VI	4.32	1.43	0.74	$p \geq 0.05$
	OC	4.13	1.26		
E	VI	3.62	1.39	1.86	$p \geq 0.05$
	OC	4.05	1.14		

OC =Orthopedically Crippled

VI =Visually Impaired

Table 7 depicts the comparison of visually impaired and orthopedically crippled school going children with N=60 in each case on first five factors of Personality Characteristics. The data revealed a significant difference in the two on factor C of Personality Questionnaire. Findings indicated that in comparison to the orthopedically crippled school going children, the visually impaired school going children were emotionally stable, whereas, the orthopedically crippled school going children were emotionally less stable. However, the two groups did not differ significantly on factors A, B, D and E of Children Personality Questionnaire (CPQ).

Table 8: Mean and S.D. Comparison of Visually Impaired and Orthopedically Crippled School Going Children on Personality Factors F, G, H, I and J (N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
F	VI	4.53	1.09	2.47	$p \leq 0.05$
	OC	3.98	1.09		
G	VI	4.87	1.21	1.20	$p \geq 0.05$
	OC	4.55	1.64		
H	VI	4.97	1.47	2.41	≤ 0.05
	OC	4.32	1.47		
I	VI	6.27	1.62	0.54	$p \geq 0.05$
	OC	6.10	1.71		
J	VI	4.68	1.83	1.94	$p \geq 0.05$
	OC	4.12	1.31		

VI =Visually Impaired

OC =Orthopedically Crippled

The comparison of visually impaired and orthopedically crippled school going children with N=60 in each case on five factors of Personality Characteristics revealed a significant difference in the two groups on factor F and H of Personality Questionnaire. More specifically the results indicated that in comparison to the orthopedically crippled school going children, the visually impaired school going children were serious and careful, whereas, the orthopedically crippled children were sober and timid. However, the two groups did not differ significantly on factors G, I and J of Children Personality Questionnaire (CPQ).

Table 9: Mean and S.D. Comparison of Visually Impaired and Orthopedically Crippled School Going Children on Personality Factors N, O, Q_3 and Q_4 (N=60 each)

Factors	Groups	Mean	S.D.	t-value	Level of Significance
N	VI	4.38	1.68	1.64	$p \geq 0.05$
	OC	3.95	1.21		
O	VI	5.23	1.83	1.20	$p \geq 0.05$
	OC	4.85	1.64		
Q_3	VI	5.50	1.63	0.42	$p \geq 0.05$
	OC	5.38	1.39		
Q_4	VI	5.23	1.74	0.16	$p \geq 0.05$
	OC	5.18	1.50		

VI =Visually Impaired

OC =Orthopedically Crippled

Data presented in Table 9 revealed no significant difference in visually impaired and orthopedically crippled school going children on factors N, O, Q_3 and Q_4 of Personality Questionnaire.

CONCLUSION

Development of a sound personality is a determiner of a sound environment. A happy family with understanding and adjusting members contribute to the development of positive self to a great extent. Unless a child is accepted and appreciated in a family he won't strive to make adjustments in the society and thus lead towards achievement. No matter the issues that crop up in one's life, the endurance and capability that one holds to work towards the solution comes from the context one is having around. In order to improvise the personality traits in the physically challenged children one needs to work in collaboration with an orchestra of skilled and specialised personnel, who from time to time would provide the required services to them.

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A NEW MODEL FOR HUMAN RESOURCE VALUATION USING THE CONCEPT OF EVA

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ABSTRACT
People or human resources are the main aspect which initiates or ignites all other aspects in an organization. A well qualified and motivated workforce can revolutionize an impuissant organization. The skill, caliber or quality of the people working in an organization undeniably constitutes the real asset for a firm. Like all assets human resource need careful valuation which adds value to the organization. Time and time again attempts have been made by various experts to develop a model valuing human resource which motivates employees along with adding value to the organization. The various valuation models on various occasions fail to motivate the employees in pursuit to determine their value. In this research work a modified human resource model is integrated with the performance measurement tool named Economic Value Added (EVA) as mooted by Stern Stewarts. EVA as a performance measurement tool finds its efficacy in using it as a unique incentive compensation or bonus plan that motivates employees along with adding value to the firm. This is a system of bonous or reward where the employees are made to feel and think like owner by linking their performance with the value addition made by the organization in a specified period of time. The researchers have also made an attempt to provide an insight into the model and calculate the economic value addition in context to ONGC Ltd.

Keywords: Human Resource Valuation, Performance Measurement, Economic Value Added, Bonus Plan, Bones Bank, Net Value Created, True earnings.

A NEW MODEL FOR HUMAN RESOURCE VALUATION USING THE CONCEPT OF EVA

This paper is concerned with the measurement of human resources value. The value of human resources of an organisation is assessed in two ways:

1. By discounting the future salaries and other capital costs by a certain rate of discount, and
2. By discounting the future earnings of the organisation at a certain date by a suitable rate and allocating a part of the present value of earnings to human resources.

Following the basic principles of these two approaches, a number of valuation models have been formulated. The main limitation of majority of the valuation techniques is that none of these attempts to establish a comprehensive relationship in between the HR related costs and the contribution of the HRs. In fact, there are much delicacies in evaluating and measuring the contribution made by the human resources in exact quantitative basis, except than going for arbitrary allocation of portion of operating incomes, profits etc. Moreover, dehumanisation of people in terms of money is also a debatable issue. But, one thing must be admitted that measurement of human resource value is an issue closely inter-linked with the process of appraisal of performance, which ultimately aims at making the employees loyal, motivated and responsible towards the role and goal of the organisation.

Appraisal provides information about the performance of individuals employed in an organisation. Such informations are useful for purposes like administration, placement, selection, promotion, financial rewards, incentives, compensation etc. The essential purpose in this systematic and periodic appraisal is the accurate measurement of human performance.

We are witnessing a technological revolution in our time. This trend is going to attain greater dimensions in the years to come, when technologically competent manpower would be of greater comparative advantage. The skills of the labour force are going to be the key competitive weapon in the twenty-first century. Brain power is going to create new technologies, but skilled labour will be the arms and legs that allow one to employ—(by being the low cost masters) the new product and process technologies that are being generated. In the century ahead natural resources, capital and new product technologies are going to rapidly move around the world. Skills and consistently motivated people

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

become the only sustainable competitive advantage. Such a sustainable competitive advantage must be determined from time to time for which an in-built appraisal mechanism is essential. Human behaviour becomes a more important determinant of performance now, which is going to attain greater importance in the years to come. The success of every development depends on the behaviours of the people who are supposed to manage men, material, machines, money and methods. Therefore, a behaviourally anchored appraisal system may become the need of the hour.

In the context of measurement of human resources value, four existing valuation models have been considered comprehensive by the researchers. These are the models developed by Prof. Eric Flamholtz Wayne, J. Morse's model of human resource valuation, Bikki Jaggi and Honshing Lau's model of human resource valuation and the Baruch Lev and Aba Schwartz economic value model for human resource valuation.

Majority of organisations base their HR valuation by using the model of measurement of human capital suggested by Baruch Lev and Aba Schwartz. According to Lev and Schwartz, "The value of human capital represented by a person of age 'r' is the present value of his remaining future earnings from his employment. The determination of the total value of a firm's labour force is a straightforward extension of the measurement procedure of an individual to the organisation." They have divided the whole labour force into certain homogeneous groups such as unskilled, skilled, semi-skilled, technical staff, managerial staff etc. and in accordance with different age groups. Average earning profiles for different classes and age-groups are prepared for each group of personnel separately and present value of human capital is calculated in accordance with a formula as:

$$V_r = \sum_{(t-r)}^{T} \frac{I(t)}{(1+r)t-r}$$

Where V_r = value of individual 'r' years old.

I(t) = The individual's annual earnings upto the retirement.

T = Retirement age.

r = Discount rate specific to the person.

t = Active service in years.

The aggregate present value of the different groups will represent the capitalised future earnings of the firm as a whole. They have advocated the use of 'cost of capital' rate for the purpose of discounting the future earnings of the employees for arriving at their present value.

The basic limitations of the model are that it ignores the organisational role of an individual in achieving organisational goals and exaggerates the importance of inherent skills and qualities, ignores the possibilities of turnover and lay-off etc., emphasise only on retirement and death as quitting possibilities and ignores the fact for role changes within one organisation.

But in spite of these limitations, the model has certain unique merits and if the model is modified to suit the changing needs, it still has the potentials to usher in significant HR value results.

The attempt has been made here to modify the widely accepted model of Lev and Schwartz. The basis of modification is the "Economic Value Added" concept. As the most popular models of human resources value measurement are either based on the calculation of the present value of employee compensation or the capitalisation of salary and other human resource related costs, the attempt has been made to establish, as far as possible, a justified relation in between the cost and goals and also the achievement of excellence in performance in excess of the 'Par'.

The concept of "Economic Value Added' has been refined and popularised by US-based Stem Stewart & Co. and it can be successfully put into application to bring effectiveness to the concept 'Human Resource Accounting.' With the emergence of 'Economic Value Added (EVA)', corporate world's incessant quest for a tool which measures the value creation, seems to have come to an end. Before

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

going to put this concept in the process of human resource value measurement, let us have an critical analysis of the basics of this concept.

In order for a company to create value for the customers, employees and the capital suppliers, its return on total capital must exceed its risk-adjusted weighted average cost of capital (WACC). EVA is just the amount by which a company's preinterest but after tax net operating income (or NOPAT) exceeds the charge for total capital. For example, if a firm with a WACC for 10 per cent earns a NOPAT of Rs. 20 crores on Rs. 100 crores of total capital, it's EVA is Rs. 10 crores. To the extent EVA is positive, the firm is adding value. But, if a company's EVA is negative, the firm is destroying owner's wealth even, though reporting a positive ROE or EPS.

The real pay off from an EVA financial management system comes from the direct linking of EVA performance with incentive compensation. Bonuses are generally based on the year to year improvement in EVA. One main advantage of tying bonuses to improvements in EVA is that such bonuses effectively come at no cost to the shareholders. Another important feature of EVA based incentive compensation system is 'Bonus Bank,' under which only one-third of the declared bonus is paid upon declaration, the remaining two-third is held at risk and is subject to loss if the improvement is not sustained. In other words, in order to receive the full award, management try to improve EVA for subsequent years. In brief, it can be said that EVA is a concept which strengthens the management's incentive in a way that does not dilute shareholder interest and it can help companies communicate more effectively with the investment community.

For a successful human resource management system along with the valuation of human resources, establishment of a system of 'responsibility accounting' to auto-measure the performance and the establishment of a system of EVA is considered important. There are three main aspects of EVA system-planning, execution and evaluation. Management must begin by making a plan formulated in terms of expected EVA. The plan must then be carried out and management's success in meeting the plan must be measured in terms of EVA and the management be held accountable. In order for this three-part management decision-making cycle to function effectively, four basic conditions must be met. First, it is very important to have a well-defined managerial objective of earning or increasing EVA; second, appropriate criteria must be used in selecting the investment projects; third, companies must evaluate their actual performance over regular time intervals using EVA; and fourth, the managers responsible for the capital allocation decision must be provided incentive in the form of year-end bonus tied to EVA that encourage them to make decisions optimally and consistently. This in brief is the management approach based on the concept of EVA. One of the great strengths of the system is the consistency it maintains throughout the three management phases of strategic planning, performance and measurement and managerial compensation.

Conventional reward system often do not encourage managers to improve economic results produced. By making the Lion's share of compensation take the form of wages and wage-related items, such compensation plans lead managers to maximise not EVA but rather their size. So the question is to what extent this behaviour of empire building at the expense of profitability, can be changed. Mere changes in the corporate performance objectives without accompanying changes in compensation schemes are unlikely to be successful. So, if a firm sets its performance objectives in terms of EVA and the incentive compensation schemes on some other basis, the resulting effect could be that its people might bow to the performance objective and march off in whatever direction the incentive structure calls for. Therefore, well-designed compensation scheme is an essential prerequisite of employee motivation, team-building and efficiency and the concept of EVA integrated with the concept of HRA can have a significant bearing in this regard as both attempt to grow the business and improve the efficiency.

Case Study of Stern Stewart's Successful Compensation System:

According to Stern Stewart there are four properties for any successful compensation system. First is objectivity, not subjectivity. Most business house plans set target based on negotiations. The result is often that, managers tend to 'low ball' their budget—because their bonus depend on beating the budget. Instead of stimulating the managers to stretch, negotiated budget reward managers for their success in carving out a larger share of the existing pie for themselves, often at the expense of the shareholders. The second essential quality of an effective compensation system is simplicity. It should be carried

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

down into the organisation at least as far as the level of middle management. The third quality is that the plan has to be significant i.e. the potential benefits that come from improving EVA have to be large enough to effect behaviour, and the fourth one is that the plan must be honoured This means that if the board of directors and senior management find some employees doing very well and then excellent, they must resist the inclination to pull the rug out from underneath them and change the rules. The system must let people do very well, provided the shareholders are also doing very well.

Stern Stewart compensation plan is based on these qualities. There are no caps on the upside. The more EVA people produce, the greater is their reward, with no limitation on the size of the bonus awards. At the same time the system has a "hold-back" or "bonus bank" feature. It also has a different stock option programme, wherein managers are asked to purchase stock options with a part of each year's bonus payments. What makes these options different is that they have an exercise price that is adjusted each year for the level of the broad stock market, or if management chooses, as industry group of the firm's primary competitors. If the S&P 500 or industry composite goes up by 10 per cent in a given year, then the exercise price goes up by 10 per cent. This way, shareholders are to get their rewards before the employees and managers participate in any gains.

Besides Stern Stewart, SPX, a Michigan-based large manufacturing corporation o specially tools and part for auto industry and Herman Miller, a celebrated furniture manufacturers in Zeeland Michigan are also successfully using the concept of EVA In India Infosys Technologies Ltd has been using the technique of EVA in determining the 'net value created' and 'true earnings.'

'Human Resource Accounting' which is contemporary accounting practice can effectively co-ordinate the appraisal subsystem of the HRM with that of the overall managerial control process. Integrated with the system of "Responsibility Accounting" and 'EVA' the HRA can not only measure the value of human resources of an organization but also can prove to be the effective tool in control process. In this part of the study a modest attempt has been made to identify and draft the modalities of such a valuation system that can be used as an alternative to the traditional appraisal techniques as well as the existing valuation methods. For the purpose of the model some fundamental assumptions, prerequisites and framework have been drawn from observation and intuition.

The pre-suppositions are as follows:

1. Fixation of pay-scales on the basis of qualification and company policy; fixing up of homogenous pay scales for analogous groups of employees (based on seniority and experience in service).
2. Basic increment for all groups and all types of employees on the basis of seniority and productivity increment and bonus on the basis of achieved target or fulfillment of entrusted responsibilities (to be calculated on the basis of man hour saved or additional task accomplished with efficiency).
3. Guarantee of permanent employment to the employees like the life-time employment in Japan.
4. Maintaining an efficient system of training and continuous re-training.
5. Maintaining of the service role changes within the same level of seniority.
6. Close binding and alliance of individual members to the organisational objectives and spirits.
7. Recruitment of right men in right time through right way and their proper placement i.e. maintenance of an efficient recruitment, selection and placement division, establishment of a strong organisational structure.
8. Constant motivation drives and well designed motivational and productivity campaigning for quality upbringing and enhancement.
9. Share of the 'value additions' (derived through the valuation model) on proportionate basis to related contributory groups as per expected 'share of responsibility and achievement.'
10. Classification of employees on the basis of service experience, qualification and skill into responsibility groups assigning specific tasks to perform.

The new model aims at extending the Lev and Schwartz valuation model by incorporating into it the present value of training-retraining-recruitment cost and the present value of expected or anticipated economic value addition. According to the model, the value of human capital represented by a person of 'r' years old is the present value of his remaining future earnings, anticipate economic value addition etc. from his employment. The determination of the total value of a company's human resources is a straight forward extension of the measurement procedure of an individual to the organisation. The model states that all the anticipated employee compensation including salary, allowances and other fringe benefits are to be capitalised first and the anticipated or probable new recruitment- selection costs, are also to be capitalised. The 'economic value addition' is then to be anticipated for a given period (for the purposes of this model over the useful life of fixed assets) and capitalised and if this is positive, to be added as the appreciation to the human capital. The expected useful life of the assets has been taken as the basis for measurement as with the passage of time obsolescence of the older technologies are observed and with the emergence of new technologies newer concept of "value" emerges in the organisation scenario.

The "economic value added" is to be computed after adjustments for weighted average cost of capital and, therefore, 'market value' and shareholder's interest are to be protected. The model is also accompanied by a proforma 'Human Resource Balance Sheet.' The relationship of other fixed assets which has been named here as 'technology' and 'the human resource' has been established as follows:

'As the human beings knowledge, skill increases with their age, experience and training, their 'value' or 'value potential' increase with the corresponding decrease in the 'value of other fixed assets.' Therefore, there is an inversely proportionate relationship in between the 'value of human resource' and the 'value of other fixed assests.' Over the life of fixed assets and upto the point of expiry of present or existing technology human resources relative value is assumed to be increased (other things remaining the same) and with the advent of new technologies their relative value in comparison to the 'fixed assets' are to be less and then gradually again to increase with their subsequent mastery over the use of new technologies through better capacity utilisation and efficiency.'

For calculating the 'economic value additions' the following steps are to be undertaken and duly modified to suit each and everyone's organisational context (as has been done by Infosys Technologies Ltd).

Computation of EVA of ONGC Ltd.

Year Ending March 31st	2014	2015	2016	2017	2018
Share capital	4277.76	4277.76	4277.76	6416.63	6416.63
Debt capital	0	1393.00	0	0	25592.21
Beta variant	1.27	1.10	1.15	1.06	0.99
Risk free debt	7.60	7.60	7.60	7.60	7.60
Market return	7.56	20.16	25.20	-25.20	-4.03
Cost of equity	7.48	21.41	27.84	-27.20	-3.9
Cost of debt	0	0.14	0	0	0.21
WACC	7.48	16.18	27.84	-27.2	-0.64
NOPAT (adjusted)	22,095.17	17,735.95	17,464.06	19,121.72	21,453.75
Tc*wac	319.97	917.52	1190.92	-1745.15	-204.85
EVA	21,775.20	16,818.43	16,273.14	50,866.87	21,658.60

Source: Self compiled from Corporate Reports of Oil and Natural Gas Commission of India

It is to be noted that profit after tax has been taken as the 'base' as 'corporate tax' is a non-recoverable compulsory payment.

The proposed HRA model is based on the 'Replacement Cost' approach, as in the light of open-market economy 'market value realised' through market demand and supply force is considered to be most important. The concept of 'opportunity, cost' can also be taken as basis. The 'economic value addition, is to be segregated in some distinctive parts: Value retained for human resources, incentives and rewards in the form of minimum or normal bonus, efficiency Bonus etc. either in cash or in terms of kinds (i.e. increase of real purchasing power); value retained for contingent happenings due to macro-economic fluctuations and shortfall in targets, value retained to offset the gap of 'price for new

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

technology' and 'assets realisation or replacement fund' created vide depreciation or replacement fund' created vide depreciation or absorption.

For the internal management purposes, each individual and each individual group's value are to be measured separately on the basis of a rank transitional matrix against pre-determined performance standards. Aggregation of these anticipated performance standards are to be adjusted with the anticipated 'economic value addition' or it can also be done in the reverse way i.e. starting from the gross or aggregate point or the average points. For determining the performance standards, one absolute number is to be ascertained for the business as a whole, say for example a percentage score of 50, 60, 70, 80 indicate—'such and such' amount in terms of economic value. Proportionate relative weightage is to be assigned to each responsibility group without having any bar on the upper limit. For shortfalls, inefficiencies and de-motivational factors, subsequent regular corrective actions are to be taken, which result in incurring of expenses and thereby result in reduction of the values of a particular group or groups. But these are for internal management purposes, and not to be reported. What is to be reported is the aggregate 'value additions' of the corporate team. The 'yardsticks' or 'scales' or 'grades' of 'corporate performance, 'group performance' and 'individual performance are to be determined by the company management depending upon the nature of business, the management objectives and guiding philosophy, the nature and extent of investment decisions including expansion and diversification, the nature of financing and dividend decisions, production policies, marketing strategies, personnel policies and related matters. It is to be carefully noted that in some years cost of capital rises beyond expectation thereby resulting in less 'economic value' for the business due to various market factors. But there should be a continuous strive for quality and excellence through the identification of most beneficial opportunities and translating these to material realities. Shareholder's and financiers interests are not to be harmed at any cost as they or their behaviour determine the 'market value' of a firm which ultimately leads to better corporate image and a 'better corporate image' is for better performance. From the analysis, it can be clearly said that the entire process is a cyclical one as follows:

"Expenses incurred on human resources through recruitment-selection-training-turnover-plus normal increments, bonus incentives plus efficiency bonus paid for economic value creation and addition after paying shareholders as per their expectations which leads to appreciation of human value and corresponding search for excellence and value maximisation that ultimately results in substantial market value addition and corporate image, opening up new avenues, more investors and more investment—proper utilisation in opportunities and more value creation."

One more assumption of the model is that though individual excellence are encouraged and innovative ideas are given due importance until the ideas are not taken as a strategy for the entire business, these are not rewarded with substantial 'capitalised benefits.' This means that though the propagator of an innovative idea is to be ranked and valued through 'increased scores' their ideas are not to be capitalised till these do not get the consentual acceptance as a business strategy. In the moment these are recognised as a common strategy, these are treated as intellectual assets and capitalised to enhance the value of 'human capital.'

Turnover, lay-off, exit of people for other reasons are assumed to be for managerial and organisational lack and any value reduction for these things are to be shouldered up by the business as a whole. No discount rate for such things are applied for this reason. Moreover, as recruitment cost and other necessary expenditure in regard to these are considered to be capitalised thereby reducing value addition, the need for such discounting is ignored.

Modified HR Valuation Model

The human resources valuation model proposed here can be presented in the quantitative notations as follows:

$$VH_r = \sum_{t-r}^{T} \frac{S(t) + R(t) + I(t) + E(t)}{(1+r)^{t-r}}$$

where

VH, = Value of an employee 'r' years old.

S(t) = Present value of anticipated salary for remaining service in years or useful life of machines or fixed assets or technology which is earlier.

R(t) = Present value of anticipated recruitment and training cost for the subsequent years i.e. remaining service in years or useful life of the machines or fixed assets or technology, which is earlier (apportioned).

1(t) = Present value of normal increments and bonus to maintain efficiency for remaining service in years or over useful life of machines or fixed assets or technology, whichever is earlier.

E(t) = Present value of anticipated ‘economic value addition’ for the remaining service in years or over the useful life of the machines or fixed assets or technology (apportioned).

r = Discount rate which is normally to be the annual inflation rate in capital accounts (as weighted average cost of capital are already assumed to be adjusted against EVA).

The two other important assumptions of the model are that if an employee leaves earlier i.e. before the expiry of useful life of assets, then the new recruitees, if any are to be valued for the remaining years in the ‘block’ in the same manner. The burden of recruitment and selection costs are to be borne by the organisation as a whole i.e. by the remaining people. The shortfall or additions of performarice* are to be measured for internal management purpose and any regards given for excellence are to be capitalised to increase the value of HR. If these excellence and innovation results in more than anticipated EVA, the additional EVA’s are to be paid in the form of rewards to concerned employees and groups in the year of occurrence. In case of shortfall in targets, these are to be adjusted out of earlier years excess EVA reserves but immediate corrective action to be undertaken and the expenses borne for this are to be deducted from the apportioned amount of EVA to those particular employees and the groups, for whom the shortfall occurs. If the shortfall is for macro-economic pressures than only it is to be reflected in the ‘aggregate amount’ otherwise not.

Apportion of the excess of EVA over anticipated ones are to be paid as incentive rewards and the remains be kept in a reserve fund to pay ‘excellency awards’ over the expiry of valuation period and to spent as training and upgradation expenses with the emergence of new technology. In case of normal anticipated EVA also, a portion is to be kept in reserve instead of paying these to employees as incentive rewards to upgrade their skill to use technologies. As the depreciation fund for the assets are not considered to be enough for replacing the obsolete assets and some additional capital expenditures are to be incurred for this, to prevent the downfall of the value of human resources in comparison to total assets, the EVA reserve fund is to be capitalised over the expiry of asset’s useful life. The entire valuation process is based on the ideological notion of “value creation, enhancement, growth, survival and a ceaseless momentum of human endeavour to usher in endless creativity.”

The introduction of a ‘Human Resource Balance Sheet’ is also advocated here as follows:

Proforma Human Resource Balance Sheet

Liabilities	***Assets***
(All emoluments of Human Resource	Human Investment or
i.e. Salary and Other Benefits—	Human Assets at Present
Present Value of Anticipated	Value.
Selection and Training Costs/	
Present Value of Anticipated	
EVA to be Sub-classified as:	
(a) Efficiency Bonus, Reward,	
(b) EVA Reserve Fund.	

The deviations in the subsequent years are to be adjusted on yearly basis by separate calculations and the aggregate deviation at the end of a “specific valuation period,” are to be adjusted against the “EVA

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Vol.40-Issue.89-March, 2020

Reserve Fund." And shortfall is to be adjusted with the 'total human resources value at the end of a specific valuation period.'

The treatment which can probably be given in the 'Statement of Profit and Loss' can be worked out in the following way to avoid double effect of entering transactions in Final Accounts. This is a kind of treatment showing neutralising effect in Statement of Profit and Loss, in case the HR cost and other HR expenditures are to be shown as 'investment' in 'Final Accounts.'

Proforma Profit and Loss Statement and HR Expenditure Treatment

Debit	**Credit**
Current Year's HR	Human Value Appreciation Amount or Note
Benefits and Other Cost Current Year's Selection and Training Cost etc. EVA as Part of the Net Profit Given as Incentive Rewards.	

This way of treatment is only a prescriptive and recommendatory one and much intensive research is needed to testify the usefulness of the proposed system in the real life situations in the long-run.

To conclude, it can be said that human resources can be valued, of course with certain limitations, as like other resources in the organisational context. Treating these as investment is a more comprehensive and pragmatic practice in the interest of enhancing efficiency and quality. Integrated with the system and philosophy of management, HRA, can be an effective tool in establishing a strong internal human resource management system.

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PROBLEM AND PROSPECTS OF HANDLOOM SECTOR IN WESTERN ODISHA

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ABSTRACT
The textile industry of Odisha has a long history. It has been complimented worldwide due to its various design, quality and genuineness. Sambalpuri saree with Ikat type of weaving one among them is most famous in Odisha, India and overseas as well. Despite of such recognition the Sambalpuri textile industries of western Odisha are struggling for its sustenance. In this regards on 22nd November 2016 the Odisha state cabinet has approved the "Odiha MSME (Micro Small and Medium Enterprises) development policy 2016 under communicated vide Memo No.9599 dated 23.11.2016 of parliamentary affairs department in order to enhances capital investment subsidy to MSME entrepreneurship. Despite of such policy level formulation and socio-cultural importance the weaving sectors have been confronting with lot of challenges due to low adaptability in changing trends, lack of skilled manpower, proper market facilities, high cost of credit and procuring of raw material. Therefore a study has been undertaken among the weavers of Barpali cluster of Bargarh district and tries an humble attempt to explore the socio-cultural importance and the problems and prospects of handloom weaving community in an anthropological perspective.

Keywords: Problem, Prospect, Handloom, Credit, Adaptability

INTRODUCTION
Since time immemorial the handloom sector of West Odisha has secured a renowned space in India and outside India also for its distinct quality and design of fabrics popularly known as *Sambalpuri*. It has become a cultural heritage of Odisha. Mostly it is a traditional occupation of *Meher* community (*Bhulia, Kuli and Kusta)* of West Odisha. The weavers in these sectors belong to the vulnerable and weaker sections of the society. Most of the weavers of *Barpali* cluster carry out traditional occupation for the maintenance of household needs. In the same time they contribute to the state/nation's textile production units. There are 23.77 lakh handlooms in the country. The industry provides employment opportunities to 43.32 lakh handloom weavers and subsidiary workers. This comprises 38.47 lakh adult handloom weavers and subsidiary workers, of which 24.72 lakh are engaged full-time and 13.75 lakh on part-time basis (Bankers Institute of Rural Development, 2016). Most importantly the vulnerable and marginalized sections of society in rural area like women, SCs, STs and OBCs are contributing their labour force to the handloom sectors. The Bankers Institute of Rural Development (2016) indicates out of 38.47 lakh handloom weavers and subsidiary workers in the country 77.90% belong to women. They contribute at pre and post loom labour. Significant masses of weavers/artisans consisting of scheduled castes, schedules tribes and religious minorities, who represent the economic lifeline of the most vulnerable sections of our society i.e. SCs (10.13%), STs (18.12%) and OBC (45.18%), participate in the handloom sector. The production share of handlooms to total textile industry is about 13%. In this context Odisha occupy a prominent place. The handloom weaving of Odisha and particularly the *Sambalpuri* fabrics of West Odisha is most popular in the nation and over sea country also due to its tie and dye handloom fabrics with excellent colour combination and variety of designs. Despite of all significance, fineness and popularity the age old handloom sector of West Odisha is running through many up and down. State government has taken so much of initiatives for the development of MSME (micro, small and medium enterprises). However the MSME sectors in general and handloom sector in particular have been suffering of basic difficulties such as availing of infrastructural facilities, credit linkages, marketing facilities. As a result the state handloom sector has been struggling for existence and lagging behind with the competitive global market. The weavers have been gradually withering from the traditional and hereditary pattern of livelihood to other sectors. The weavers' co-operatives societies, who were looking after the weavers at present they are struggling with financial inconsistency. As a result the traditional handloom sector is running in crisis. A proactive approach is necessary and should address the constraints such as access to finance, access to markets, technology and environment, infrastructure bottlenecks, access to people and regulatory constraints and facilitation faced by the sector.

REVIEW OF LITERATURE

The production capability has been significantly decreasing day by day. The weaving communities are withering from the traditional pattern of occupation, as a result of which the unemployment and under employment are growing in the country (Rani and Kumari, 1998). Rao and Sekhar (1998) explore in their study that due to weak organization and organizational strategies, weak co-operatives, non-availability of credits and finance, lack of market and infrastructural facilities the handloom sector has been pushed into the vulnerability. Premavathy (1999) conducts her study in the Ernakulum district of undivided Andhrapradesh and indicates about the problem, prospects and importance of handloom industry. She also highlights some problem solving methods to revive handloom industry. She has given emphasis on the modernization of handloom industries through the proper training in both rural and urban area with financial availability. This will help in reducing unemployment in the district. Narayan (2000) describes regarding the bounty of handloom industry with varieties of artistry of weavers based on natural objects. The handloom industry is indivisible part of rich cultural heritage of the country. In order to protect the rich heritage and the interest of the weavers the government passed the Handloom Act 1985. The ministry of textile assign NCAER to conduct census of handloom in 1995-1996 for the better formulation of policy and its implementation to provide benefits to the handloom weavers.

Kutty (2000) reveals that the handloom weavers are lacking proper market facilities to sell their products. The weavers sell their products at the doorsteps of villages or at the village weekly market in order to maintain livelihood. As they are severely affected with the poverty they are forced to sell the products at a very low price. In this context they are forced to lead an exploited and suppressed life. Ganesh (2000) highlights the present dyes processes have ill impact on the health. Earlier the weavers were following the traditional dyes process using natural vegetables which were eco-friendly. At present they adopt chemicals colour in the dyes process, which has a great side effect. It directly impact on health. Ganesh (2000) suggests to facilitate the traditional patterns of dyes.

The handloom sector plays an important role in contributing employment opportunities to the both urban and rural people directly and indirectly in a large extent. Nimbalkar (2002) indicates there are 6.5 million people engaged in weaving activities directly and indirectly. In the global competitive market the handloom sector withstands due to the intervention of government through different schemes, policy and financial assistance. Mathiraj and Rajkumar (2008) conduct study on the production and available marketing facilities of handloom weavers in Tirunelveli district. The study clearly states the weavers' community have been facing the great range of fluctuation in yarn prices. On the other hand the production pattern, design and the selling price of products is moderate cost. The study emphasises on proper marketing facilities with a standard selling price and availability of yarn with a moderate price can help to overcome the problems. Prachi (2010) indicates that the handloom products of India are gaining popularity not only among the Indians but the people of western countries also liking and appreciating. The unique styles of colour combination, varieties and the weaving art of weavers have created a distinct place over the world.

In the research paper Christopher J. Green, Colin H. Kirkpatrick, and Victor Murinde, (2006) investigate the contribution of financial sector development policy. They highlight the financial support to the growth of Micro and Small Enterprises (MSEs) and access of MSEs to both formal and informal finance including micro-finance has been helping for the poverty eradication. Nanda, Ramana and William R. Kerr (2009) also refer that the financial constraint is one among biggest problem all over the world which has been impacting on the potential growth and development of entrepreneurship. The Small and Medium Entreprieses (SMEs) in India face many problems, out of which the financing is the most important and acute in both short and long term entrepreneurship (De, Sankar, 2009).

In the era of globalization most of Indian consumers are attracted towards foreign products. At present the Indian consumers have to change their mind set to *"swadeshi"* instead of *"videshi"*. The fashion designer as well the fashion industries can also play an important role in creating a good platform to propagate the significance of handloom products and recognize the talent of weavers (IANS, 2011). TNN (2011) indicates about the different schemes and policies undertaken by the government. Through the policies formulation the government try to encourage the weavers of handloom industry. The socio-economic development of weavers is the focused issues of the government.

The Export-Import Bank of India, (2018) critically analyses about the current status of Micro Small and Medium Entreprises (MSMEs) and other support system in India and global as well. According to the Export-Import Bank of India, (2012) the "MSMEs in India should have access to alternative sources of capital like angel funds/risk capital etc. and that existing laws should effectively address issues like insolvencies/bankruptcies; need to redefine the ceiling limits to encourage MSMEs to move up the value chain and need for cluster development approach to increase the level of competitiveness". Srinivas K T, (2013) explore the importance of micro, small and medium enterprises in India. He again highlights the contribution of MSMEs towards the economic growth of India.

Nadh Rayapati Raveendra and Rao P. Venkat (2013) explore regarding the handloom market in India, problem handloom industry and marketing strategy. They refer some important strategies for the promotion ant propagation of handloom sector such as; affordable price, availability of handloom products, good colour combination with durability of colour, quality product with innovative design as per demand of people or latest design based on trend, products of different varieties based on the suitability of weather etc may draw the national or overseas market. Moreover more advertisement, awareness among the local people, customer friendly services zero intervention of middlemen etc. are needed for the promotion of handloom sectors more popular in India. A. Ramesh (2015) conducts a study on the topic "Analysis of profitability and Financial Health of the Handloom weavers' co-operatives societies in Karur District" of Tamil Nadu. He states that most of cooperatives societies run with varieties of problem most important is marketing facility. He clearly concludes that various societies have been facing financial problem and there is no significance of gross profit.

Boruah Rickey Rani and Kaur Satvinder (2015) conduct study among the weavers' cooperative society in Assam. They basically concentrate on business transaction of selected handloom weaving units in Assam and recognize many difficulties which the handloom sector in Assam is confronted. The use of superseded technology which lead to low productivity, unorganized production system, insufficient working capital, lack of marketing facilities, lack of innovative design, overall stagnation in the production and selling system and most importantly competition with power loom and spinning mill sector are the bottlenecks of handloom sector in Assam.

Priyadarsini (2015) indicates handloom product was part of "Swadeshi Movement" of India and it has a rich socio-cultural importance. Many policy and scheme have been implemented by the state as well as central government for the promotion of handloom sector and the socio-economic development of weavers. However the government assistance is not sufficient for the improvement of the sector and to maintain livelihood who engage in this sector. So the public should take interest to provide marketing facility in buying and wearing the product instead of Mill products. In growing unemployment scenario in the developing country like India, some extent the promotion and development of handloom sector can help to reduce the problem. Handloom is a rural based small scale labour intensive sector. So promotion and development of the sector make the rural people economically independent (Patra and Dey, 2015).

Micro Small and Medium Enterprises (MSMEs) is considered as economic backbone next to agriculture as it maintains the growth rate in generating employment opportunity. Despite of inadequate infrastructural facilities, lacking of market facilities and challenges like flow of institutional credit the sector has a remarkable contribution to the national GDP. In this paper the Das (2017) indicates the growth potential and opportunity of MSMEs sector.

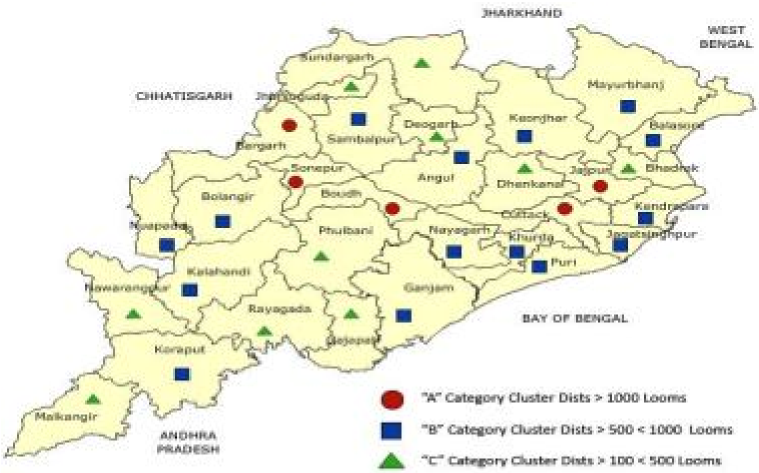
METHODOLOGY

The study involves with both primary and secondary information. The primary data are collected from the handloom weaving units and weavers through qualitative interview and partially quantitative techniques. Other techniques such observation, focus group discussion and photographic documentation has been followed. The secondary data are collected from the published article and internet sources on handloom. The study has conducted in Barpali NAC (Notified Area Council), Bandhpali and Bagbadi panchayat of Barpalli block and Jalpali Panchayat of Bijepur block, which is situated nearer to Barpali. The Barpali is situated 21 kilometres from the district headquarter, Bargarh of Odisha.

OBJECTIVES

The above theories developed an insight of researcher to explore scope of handloom sector in the sample area. As the handloom is considered as the most employment generation sector next to agriculture as a result, government of Odisha has taken so much of initiative for the development of handloom sector. In this context the researcher tries to investigate the availability of the schemes in the grass root level in the sample area. Moreover the paper tries to explore about the procuring process of raw material after the close down of spinning mills in Odisha, Availability of credit and marketing facility. Again different problem and prospects of loom weavers are the principal analysis of the paper.

FINDINGS



State Scenario of handloom Sectors

Weavers population	192339
Total Household	40683
Total no. of looms	43652

Source: Handlooms, Textiles and Handicrafts Department, Govt. of Odisha

CHALLENGES OF HANDLOOM SECTORS

The Barpali handloom cluster is one among the oldest handloom cluster of odish and India as well. The handloom sectors of sample area have been confronting with various basic issues for which the socio-economic conditions of people are gradually declining day by day. Most of Meher community (*Bhulia, Kuli and Kusta)* depend on the traditional occupation, handloom. The details of loom status have given in table.1.

Table.1.Loom Scenario of Sample Cluster

Villages /Town	**No. of looms**
Barpali	780
Bandhapali	325
Baghbadi	395
Jalpalli	239
Total	**1739**

The table 1. Indicates that there are sum total of 1739 looms in the sample villages. Out of which 780 looms belong to *Barpali* town, 325 from *Bandhpali* and 395 and 239 from *Bagbadi* and *Jalpali* respectively. The following issues have found among the weavers of sample area.

Procuring of Raw Materials

Especially cotton and *tussar* (mulberry) yarns are the major used raw materials to produce the handloom products. The spinning mills of Odisha have been closed long back which were the immediate sources of procuring raw materials. As a result the weavers have to depend on other sources both public and private intermediaries of local and outside states, basically from Karnataka, Tamilnadu and Maharastra. Among the public intermediaries National Handloom Development Corporation, Sambalpuri Bastralaya, Boyanika and Handloom Cooperative Society Ltd. are important. Moreover there are local as well as the traders of outside the state also provide the yarn from bleaching and dying companies to bulk traders in a higher amount of money in study area. Some of the bulk traders of Bargarh and Barpali perform the dying works in their own and sell in the '*Behera market*' locally popular as '*Baeljuri Bazar'*. Those immediate procuring sources are not sufficient to provide cotton yarn to the handloom weavers of sample area. Especially procuring of raw materials from the private intermediaries is found low in qualities in most of the time and inconsistent basically the availability and price are concerned. Moreover the public intermediaries do not able to provide sufficient raw materials. Though India is a major cotton producer country around the globe but India's share is much below than average. During 2017-18 the production of cotton yield was 542kg/ha while the global average was 784kg/ha. This indicate the low cotton productive ability of India as compare to the global average and China, the second largest cotton producer i.e. 1708kg/ha (Export-Import Bank of India; 2018). The variation in cotton production and supply including low qualities are major cause of low production as well as issue of livelihood sustenance of weavers.

Moreover like the availability of raw materials the unstable price of yarn is another problem for weavers. Cotton yarn is major input of handloom industries. In case of individual weavers the problem become multiply because they primarily depend on private intermediaries. Particularly the private intermediaries' supplies the cotton yarn in higher rate more than national and international standard price. The price of cotton varies from day to day and even place to place. It is also different based on the quality of yarn. At present the weavers buy the yarn of 2/80s in Rs. 70-80, 2/100s in Rs. 80-90 and 2/120 in Rs. 90-100 per *munda* (bundle), One *munda* is approximately 300gm. In one *munda (bundle)* of yarn only one *saree* can weave. It is unstable depends on availability of cotton. The price is low when domestic production of cotton is available (Table-2).

Table-2. Unstable price of Cotton in Odisha

Date	Max Price (Rs./ Quintal)	Min Price (Rs. / Quintal)	Modal Price (Rs. / Quintal)
27-11-2019	5,550	4,660	5,000
04-12-2019	5,550	4,735	5,000
09-12-2019	5,550	5,550	5,550
16-12-2019	5,550	4,950	5,200
31-12-2019	5,550	5,200	5,300
20-01-2020	5,550	5,200	5,300
27-01-2020	5,555	5,200	5,300

Source: https://agriculture.anvayin.com/price/215/Cotton/150/Odisha

The table-1 indicates about fluctuation of cotton price in Odisha during November 2019 to January 2020. As there is no fixed price and depends on place and time for buying and selling process the table highlights the maximum and minimum price of cotton per quintal.

Selling of Handloom Products

Like procuring of raw materials the handloom weavers face difficulties in selling the products. The power looms other competing sector of handloom which contributes more than 60 per cent textile products to the country. The power loom sector is advanced in technology and produces in a larger extent within the stipulated time frame. Except *Sambalpuri saree* the power loom print same to same with other the handloom fabrics though it differs in its genuineness. In the local markets the power looms fabrics are available in cheaper price. Larger sections of people with low expenditure are interested towards the products of power loom. Other hand the cost and time effective handloom products is substantially higher in price which fail to draw the attention of the middle and low middle class people. A small section of population comes forward to afford to buy handloom products. The total cost of a power loom fabric is maximum Rs. 30/- per metre while it would be more than Rs 500/- in case of handloom (The Export-Import Bank of India; 2018). Moreover the local women are primary consumers of handloom. The new generation prefers to use variety of dress in lieu of *saree,* result the local selling of *saree* get affected. Though they produce dress materials which are less in variety and high in cost in comparison to power loom products. The weavers give little emphasis to produce low cost plain weaved products like napkin, *Lungi* and *dhoti*. Other hand competing with the handloom products the modern textile industries produce variety of synthetic as well as cotton textile items with various attractive designs and low cost. Taking those advantages particularly the middle and lower middle class people attract towards machine made products due to which the selling of handloom products get affected.

Lack of Credit Availability

Particularly the weavers do not work with cooperative society and work individual or under master weaver confront with the issue of access to credit and expensive cost of credit. Many cooperative societies such as one Handloom Cooperative Society Ltd. (Barpali Mehar Arts & Crafts), 5 Primary Weaver's Cooperative Society (Barpali Costha, Janta Bastralaya, A.N. Tie & Dye, Sri Maa Ahhusalaya and Gopobandhu) and many branches of Sambalpuri Bastralaya exist in the sample area. Those fail to bring all the weavers of the area to its fold. The Barpali Handloom Cluster covers weavers of Barpali NAC and and villages Bondhpali Bagbadi of Barpali block and Jalpali of Bijepur which is adjacent to the Barpali NAC. Except the weavers of Barpali NAC the weavers of villages work individually or under the master weavers. The Handloom policy 2016 of government of Odisha ensures to provide credit facilities to the weavers through bank but they are not able to avail because its puzzling system and lack of information about the policy. It is found from the field that out of 278 sample weavers around 90 (32.37%) have taken loan from local money lender, 83 (29.85%) from master weaver, 69 (24.82) from cooperative society and 36 (12.94%) from other sources like friend, relatives or SHGs., those are much higher than state statistics i.e 2.9% of weavers have taken loan from local money lender, 9.53 from the master weavers and 15.81% from cooperatives society (Fourth All India Handloom Census of India also indicates 2019-2020). The cost of availing credit is too expensive which push the economic conditions of the weavers worsen. The non-availability of the credit from the government sources with low interest may be due to puzzling of system or lack of information of weavers hampering the quality of products.

Lack of update Consumer Preferences Products

The handloom sector of sample area is rich in cultural value and tradition. Nationwide it is one of the oldest and finest *tie & dye* manufacturing sector. Particularly the *Sambalpuri Ikat saree* has good reputation both in national and international level for its ethnic design and finest quality. But the other handloom production like napkin, *Lungi,* towels etc. have failed to draw the attention people of local and outside. The weavers do not have opportunity to upgrade those products based on the demand of the people. As a result the weavers have been continuing to produce traditional productions without having novelty of designs, colour combination and texture. No special training programme has been organized by the government or cooperatives societies to upgrade the skill based on consumer choice, though the handloom policy 2016 emphasis to promote capacity building through skill up gradation and institutional training (Handloom Policy-2016).

Lack of Promotion Initiatives

The handloom policy 2016, government of Odisha ensure to adopt publicity, propagation measure, facilitate marketing export through product development, exhibition, urban *haat,* Malls and to link tourism and fashion to promote the culture and tradition of handloom. All those remain only in pain and paper. It has not been replicated into reality. The advertisements of handloom products are found occasional, particularly in different *'Lok Mahotsaba'* in different district. Those are not holistic approach to promote and sustenance of handloom sector. At present many self initiatives are made to advertise through social media such *whatapp* and *facebook,* which are not sufficient for the promotion of handloom products. Moreover the customers are not able know about the distinctive features of handloom products. As a result the marketization of products does not reach to its expectation.

Availing Information

The craft weavers belong the villages area are mostly illiterate or lowly literate for which keeping information about the various details of government and non-government programmes and schemes are not possible. The ministry of textile and handloom and the department of MSME (Micro, Small and Medium Enterprises) bring many programmes and schemes having a positive impact on handloom sector. Particularly the components such as sourcing of raw materials, information on availing credit facility, skill up gradation training programme etc. The weavers of sample area are totally lacking the

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informaion about those benefits. The well informed weavers also fail to avail the benefits because of lack of knowledge about procedure. The simple minds of weavers take grant the procedural steps as puzzle or harassment to them. For the optimum utilization of government and non-government benefits organization of awareness and training programme may help the weavers to avail the benefits. Circulation of government benefit schemes and the processes in local language in the form of leaflets among the weaver may enhance their knowledge about schemes and simplification in procedural level may attract the weaver to participate in government and banking credit system.

Prospects of Handloom Sector

With the bottlenecks of the Barpali handloom cluster there are many prospects as it is an oldest cluster of West Odisha. The government can revive the cluster with strengthening the existing infrastructures and human resources.

Strengthen the Existing Cooperatives and Entrepreneurs

Despite above problem the handloom cluster of Barpali has many opportunities to revive. The government of Odisha established many cooperative societies such as Janata Vastralaya in 1957, Utkal Vastralaya (late 1960s), Meher Arts & Crafts (1971), Ananta Narayan Tie & Dye Weaver's Co-operative Society (1977), Jalpali Weaver's Co-operative Societies (1981). During 1980-90 the government of Odisha provided financial support in the form subsidy and assistance for the development of market. *BOYANIKA* and *Sambalpuri Bastralaya* the two largest cooperative societies also undertook in this period. Both the societies were procuring 70-80 per cent of handloom productions. Regular payment was made to the primary societies, as result the weavers were interested to work under those societies. It is found from the sample respondent that both institutions gradually started to deteriorate in its organizational level during late 1990. As an impact of the decline of both the institutions the total system began to dismantle, which were the support mechanism for the survival of handloom sector. Moreover the declining of government support system during same period pushed the weaver to depend on private intermediaries.

More or less the above cooperative societies are still continuing in the sample area. Many constant support systems or schemes of both state and central government such as National Handloom Development Programme (NHDP), Comprehensive Handloom Cluster Development Scheme (CHCDS), Handloom Weavers Comprehensive Welfare Scheme (HWCWS) and Yarn Supply Scheme (YSS) are at doorstep. Government should make an effort to develop the existing handloom cluster in village level of this region as large scale production centre through need based intervention and linking with the government scheme. The promotion of deadly entrepreneurs, enterprises and cooperative societies in the sample area can also revive the sector.

Re-Orient Human Resources for Capacity Building

Despite of such adverse condition the handloom cluster of Barpali has been producing distinct quality of fabrics. The designs of fabric reflect the social custom and tradition and become a cultural heritage of the region. People of this region have an emotional attachment with fabrics. Moreover those designs are difficult to replicate in power loom most the *Sambalpuri sare*. Taking those advantages capacities building of the weavers can be made through organizing training programmes for skill development on weaving, tie and dye making and designing. Padmashree Kunja Bihari Mehar, Khetramohan Meher, Surendra Meher, Dayalu Meher, Smt. Swarnalata Meher, Bhagwan Meher, Phagun Meher, Sukadev Meher, Sesadev Meher, Dahita Luha and Gobinda Meher have been awarded by the ministry of textiles of the state and nation live *Barpali*. These national and state awardees have been awarded due to their innovative designs and contribution to the handloom sector. The engagement of those resource persons in the provision of training and coaching to local weavers would be beneficial to the local weavers and handloom sector at large. As a result the weavers can produce the fabrics in varied designs, standardization with quality control. As most of the local weavers are illiterate or low literate they fail to manage large orders and transactions. In this regards for the comprehensive development of the sector specific entrepreneurial management training may provide to the weavers.

Moreover spinning mills of Odisha, the immediate sources of procuring raw material have been closed down long back. Some of the masters or entrepreneurs of the mills prepare yarn and dying in their home and sell in the *'Baeljuri Bazar'* after buying raw materials from the intermediaries. Due lack of fund and shortage of space they perform the work in limited way in their residential home, only for sustenance of livelihood. Other hand the weavers of sample area depend on both private and public intermediaries. As the private intermediaries are profit oriented the weavers procure yarn in higher amount. Both price and quality of raw materials are most determining aspect of handloom sector for quality and marketability of products. The maters or small entrepreneurs of the spinning mills can reorient with advanced technique to prepare yarn and dying in larger extent. Moreover financial assistance from the government may provide to prepare yarn, dying and bleaching work in a larger scale. As a result the local weaver can get quality yarn in a reasonable price easily.

Build up Marketing Facilities

The Barpali cluster has a good weekly market facility called as "*Behera* Market" locally known as *"Baeljuri Bazaar"*, situated 8 km from Barpali town. Only local handloom products are available here. The market is open on the early morning i.e.4.00 am. to till late evening of Friday. As the market place is situated at the side of national high way No. 201 it connects all the districts headquarters of West Odisha and capital cities Bhubaneswar and Raipur directly through road. The railway station of Barpali situated approximately 8km from the *Baeljuri bazaar*. In order to marketing support the said *bazaar* should be strengthen through advertisement in printing, electronic media and add with tourism website. Moreover marketing tie up may undertake with other marketing agencies or export agencies. The deadly cooperative societies may be financially assisted to grow sale and enhance daily earning. In order to make online purchase system the necessary facilities such as printing of product catalogue, sale outlets and website for easy accessing may be arranged.

Making Women Self-sufficient

Handloom sector is a household based economic activities. All the members of the family participate in weaving and other allied activities. Next to agriculture the handloom sector is highest employment generating sector in the sample area. In this sector the women and the adolescent girls play an important role. Except weaving they perform other allied activities such as winding, wrapping, tying, dying and sizing. All those allied activities are very important aspects as well as patience full work of weaving process. All the women and adolescent girls of the weaver's family engage with above work till morning to evening. Twenty three lakh of women and adolescent girls engage all over the country in weaving and allied activities (4th All India Handloom Census-2019-20). Approximately 70% of women participate in weaving and other allied activities in this sector (4th All India Handloom Census-2019-20). Empowering the handloom sector is make women self sufficient.

CONCLUDING REMARKS

The artistic design of handloom product popularly known as *Sambalpuri* is the traditional occupation the weavers' community (*Bhulia, Kuli and Kusta)* of West Odisha. They are included as backward classes in the list of government of India. Most of them work and live in an unhygienic condition. They have been performing the traditional occupation which has become a cultural heritage of Odisha is very much decentralized, disperse and informal in nature. At present they have facing many problems from procuring of raw materials to selling of products competing with the products of power loom and availing of credit facility. As a result lion shares of benefits transfer to the pockets of intermediaries. They fail to avail social and economic protection from government side as it is informal sector. As the handloom is largest employment generating sector next to agriculture it need to be strengthen adequately. The handloom products of West Odisha have a good reputation before India and world as well for its genuineness and design, which difficult to replicate. Taking this granted both central and state government need to address the various issues for the development and prosperity of handloom sector and weavers of West Odisha.

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STUDY ON CUSTOMERS PERCEPTION OF WESTERN MUMBAI AND CENTRAL MUMBAI TOWARDS ONLINE SHOPPING

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ABSTRACT

Mumbai region has more than 70 lacs users of population who does online shopping. It is rising rapidly every year. E-commerce has opened the door of technology for users. One can use Ecommerce facility by using internet to fulfill their routine needs. Need and use of online shopping of customers differ from age, income and other factors. Customer use internet facility for different purposes like banking, e-payment, etc. it has created many avenues to customers to do their shopping. Mumbai is a wider place where many customers have opted online shopping to save their time as compared to physical store. This research paper has encompassed evaluated customer's perception based on two section of Mumbai region. i.e. Western Mumbai and Central Mumbai.

Researcher has used different statistical tools to reach on solution by studying the research problem. This paper covered research methodology, scope and limitations of the study.

Keywords: customer's perception, online shopping, internet, statistics and objectives

1. INTRODUCTION

In the era of globalization along with the development of e-commerce, many business organizations started their sales and marketing efforts for their products and services via internet. Online shopping refers to the shopping behavior of consumer in an online store or a website used for online purchasing purpose (Monsuwe et al. 2004). Online shopping is the consumers shopping behavior to shop online. The people who find it easy to use, useful and enjoyable can accept online shopping. Online shopping has experienced a rapid growth during the recent years due to its unique advantages for both consumers and retailers, such as shopping at round the clock facilities, decreasing dependence to store visits, saving travel costs, increasing market area and offering a wide range of products. Online shopping is the consumers shopping behavior to shop online.

In brief this paper will explore the factors influencing and pushing customers for online shopping in Western Mumbai and Central Mumbai region and to achieve the objective of research problem. Researcher has obtained few factors by studying literature and other studies.

2. REVIEW OF LITERATURE

Researcher has covered following reviews related to the research problem.

1. Vikas & Vinod Kumar (2017), with the development of modern technology, people's way of life is changing day by day. These changes have also affected the way of shopping. Online shopping is taking place instead of traditional store shopping. In present study, it has been tried to find out the people's perception towards online shopping and to know whether consumers prefer online shopping or store shopping and why. The primary data for this research has been collected through a survey of 100 consumers of Kurukshetra by using questionnaire. This study used factor analysis to provide evidence thatc onsumer perception toward online shopping had strong relationship based on consumers demographic. The results of the study supported that the customers perceive online shopping with positive frame of mind and show that the emergence of various factors pertaining to online shopping.

2. R.Shanthi & Desti K. (2015), the consumer's perception on online shopping varies from individual to individual and the perception is limited to a certain extent with the availability of the proper connectivity and the exposure to the online shopping. The perception of the consumer also has similarities and difference based on their personal characteristics. The study reveals that mostly the youngsters are attached to the online shopping and hence the elder people don't use online shopping much as compared to the younger ones. The study highlights the fact that the youngsters between the ages of 20-25 are mostly poised to use the online shopping. It is also found that the

majority of the people who shop online buys books online as it is cheaper compared to the market price with various discounts and offers. The study also reveals that the price of the products have the most influencing factor on online purchase.

3. Pratiksinh V (2014), the study indicate that most of customer having experience of online shopping. Customer believed that online shopping is better option than manual shopping still they have belief that online shopping is expensive, delayed in delivery of products and service. Most of the customers are facing problems like return of bad / wrong product, confusing sites and ineffective customer service. According to, customers most alarming barrier for online shopping are unable to verify product personally, online payment security.

4. D.M.Rajesh & G. Purushothaman (2013), this chapter will mainly discuss on the study that are done by previous research of other authors in the similar area of the present study. Throughout this chapter, there will be comprehensive discussion on theoretical and practical views of previous studies done in online shopping and offline shopping for apparels. This study combines factors that other studies have done that will influence the consumer's purchasing decision in online and offline stores for apparels. It includes the price attractiveness, time saving, perceived risk, enjoyment and excitement, tangibility and high interactivity.

The above research gives brief about online shopping and customer's perception.

3. RESEARCH METHODOLOGY

3.1 SAMPLE UNIT: 230 respondents from the study region.

3.2 SAMPLING METHOD: Simple random sampling method is used.

3.3 OBJECTIVES OF THE STUDY

The main objective is understand how different factor affects perception of customers in Western and Central Mumbai.

3.4 IMPORTANCE OF THE STUDY

1. Local Businesses: It is helpful to local business to draw strategies to explore market for their existing business and adopt technology for better prospect.

2. Researcher / Academicians: This research paper will provide guidelines and adequate material to academicians and researcher for understanding customer's behavior while doing online shopping. They can use this information for their further in depth research.

3. Customers: It will beneficial to customers while buying products online. It will provide key information about price, new varieties, policies, schemes and other factors of online shopping.

3.5 DATA COLLECTION

The research has used two methods to collect data for the study problem. He has used primary data method by framing the questionnaire to obtain the first hand data directly from customers. Similarly he has used secondary data from Journals, Magazines, Webliography and other material for study problem.

3.6 LIMITATIONS OF THE STUDY

The research has some limitations during the study of research problem. They are as follows:

1. The research area is Western Mumbai and Central Mumbai region
2. The research paper has consisted perception of online customers
3. The sample size of the study is 230 of Mumbai region.
4. The research paper has covered specific statistical tools for the study problem.

3.7 DATA ANALYSIS & INTERPRETATION:

Gender	No. of Respondents	Frequency (%)
Male	127	55
Female	103	45
Total	**230**	**100**

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Vol.40-Issue.89-March, 2020

Age group (Years)		
21-30	81	35
31-40	67	29
41-50	45	20
50 & Above	37	16
Total	**230**	**100**
Occupation		
Self Employed	51	23
Business	57	25
Job	77	33
Others	45	20
Total	**230**	**100**
Income (Monthly)		
< Rs.12500	25	11
Rs. 12501-Rs.25000	48	21
Rs. 25001-Rs.37500	54	23
Rs. 37501-Rs.50000	59	26
Rs. 50001 & Above	44	19
Total	**230**	**100**
EDUCATION		
H.S.C.	27	12
UG	47	20
GRADUATE	62	27
PG	51	22
OTHERS	43	19
Total	**230**	**100**
Area		
Western Mumbai	128	56
Central Mumbai	102	44
Total	**230**	**100**

Researcher has conducted survey on perception of customers for online hopping in which 55% of male and 45% female respondents participated. 64% of the respondents fall in the age group between 21 years to 40 years, while rest of the respondents are in the age group between 41 years to 50 years and above. It means age category between 21 years to 41 years are youngsters who preferred online shopping. Respondents of different income group have different interest in online shopping due to rising income of respondents in the study region. Respondents doing job 33% have high interest in online shopping as compared to other respondents. Lastly respondents who fall in different educational qualification have different mindset in buying products online. As per area 56% of the respondents in Western Mumbai region has showed interest in online buying while 44% of respondents in Central Mumbai showed their interest in online shopping.

Factors	**Western Mumbai (128)**	**Central Mumbai (102)**
Category of the product	73%	69%
Promotion of the Product	64%	72%
Price of the product	79%	64%
Transaction Risk	75%	70%
Save Time	81%	72%
Convenient	77%	76%

Quick Shopping	76%	71%
New Trends are not available in local market	82%	78%
Payment Option	74%	66%

Source: Primary Data

Above responses are arranged in Likert Scale like 1- Strongly Disagree, 2- Disagree, 3- Undecided, 4- Agree and 5- Strongly Agree, but they are organized into Agreed portion. The above table provide data about the responses of Agree portion is taken into consideration.

Above table gives information about perception of online buyers of Western Mumbai and Central Mumbai. Customers of Western Mumbai region (73%) have more preference for different category of the product showed online marketers websites as compared to buyers of Central Mumbai region. Buyers of Western Mumbai region gives high preference to important factors like price of the product, save time and new trends are not available in the local market as compared to Buyers of Central Mumbai region. It suggest that Customers of Western Mumbai region does more online shopping transactions.

4. CONCLUSION

The as per the above discussion in data analysis, researcher has made findings of the study about distinguish study of online buyers perception of Western Mumbai and Central Mumbai Region. The results showed that respondents are more internet savvy. Marketers should give more attention to every kind of buyer and region to expand their online business. Marketers should do categories of the business and provide more effective schemes and offers, deals to such region. In this study we found that there are seven factors that affect consumer's online shopping buying behaviour. These factors are perceived ease of use, perceived risk, perceived usefulness, effect of website design, Economic factor, availability of products, and customer satisfaction.

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MASK MAKING AS A PULL FACTOR OF TOURISM: A STUDY ON TOURISM - HANDICRAFT LINKAGE IN WORLD HERITAGE SITE MAJULI, ASSAM

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ABSTRACT

Tourism is emerging as one of the fastest growing industries in the world. It is not only important in terms of generating employment opportunities but also serves as an important source of foreign exchange. Tourists, being the consumers of the tourism industry spend a part of their disposable income on various leisure activities. Buying souvenir is an integral part of every travel. Tourists like to buy souvenir as a part of their travel experience, which serves as a memory of the places that they visited and the cultures and traditions that they have witnessed. Majuli is known as the world's largest river island, is situated in the river Brahmaputra. It can be regarded as the epitome of the Neo-Vaishnavite cuture, started by revered Sri Sri Sankardev in the 15th century. It is a treasure house of diverse tourism attractions such as its satriya culture, ethnic groups, natural flora and fauna, art and craft such as pottery, boat making, handloom, etc. Tourists from all across the world visit Majuli for witnessing its famous craft- Mask or Mukha (in Assamese) and Bhauna. The paper attempts to study the role of mask making culture in developing and promoting tourism in Majuli and highlights the opportunities ad challenges for the same. The design of the paper is descriptive and is based on both primary and secondary data.

Keywords: Majuli, Mask-Making Culture, Tourism-Handicraft Linkage, Opportunities, Challenges.

1. INTRODUCTION

Handicraft forms an integral part of the tourism value chain. They constitute a major part of tourist attractions in a place and serves as a pull factor for tourism. Shopping in the recent times has been regarded as one of the predominant activities indulged in by tourists while travelling. Many researches have shown that a major portion of the tourists' spending is on shopping pursuits. Tourist shopping is the primary source of income for the tourism industry in Hongkong (Wong et al. 2000). Tourists across the world travel to different destination to experience the marvelous artistic expressions of craftsmen through their crafts. A unique craft item taken back home serves as a tangible evidence of the wonderful memories evoked by the travel experience and enhances their aesthetic pleasure. When tourists purchase any craft item and take them back home, they not only help to promote and preserve the culture and heritage of the host country, but also provide an avenue to the local artisans to sell their merchandise. Therefore a strong handicraft sector ensures that tourists choose to buy more local hand made crafts rather than machine made imported goods.

Majuli is known to the world as the largest fresh water river island. The traditional and unique art of making exquisite colorful handcrafted masks also known as 'Moukha' is a very significant and exclusive component of Majuli, a district of Assam. These masks are used primarily in the enactment of stories reflecting the Neo Vashnavite culture of Assam propagated by Srimanta Sankardeva and his diciples. Of late, Majuli has been a hotspot of tourist attraction, with tourists from across the world coming to visit the place to witness and experience its unique culture and tradition. The present paper attempts to highlight the role of the craft of mask making in promoting tourism in Majuli. The paper also throws light on the various opportunities and challenges of establishing linkages between the craft arisans and tourism sector of the region.

AREA OF THE STUDY

Majuli is a famous hotspot of tourist attraction in the NER. It is situated amidst the mighty river Brahmaputra, in the state of Assam. The river island got the status of a district in the year 2016 after it got separated as the sub division from the district of Jorhat. In the 20th century, the island was stretched over a distance of 880 square kilometers, but there has been significant shrinkage in the land area due to annual soil erosion. The island as of 2014 covers a land area of 352 square kilometers. (Source:

Wikipedia). The region with its enormous tourism resources in the form of natural flora and fauna, diverse ethnic tribes, rich culture and heritage, vivid art and crafts etc presents a unique destination experience to the tourists coming from different corners of the world. The Neo-Vaishnavite culture, propagated by Sri Sri Srimanta Sankardev and Madhabdeva in the religious monastries, known as 'satras' exhibit the rich culture and tradition of the place. In the 16th century AD, there were about 64 satras in Majuli (Tamuly, 2014). These satras were considered the epitome of the famous Vaishnavite culture. However at present there are only 22 satras in Majuli. Some of the prominent ones among them are – Uttar Kamalabari Satra, Garmur Satra, Auniati Satra, Samaguri Satra, Dakhinpat Satra etc. The researcher has, for the purpose of the study selected Samaguri Satra to collect information from the artisans in relation to the craft of mask making.

Samaguri Satra was established by the Ahom king Chakradhaj Singh in the year 1663. The satra is situated 3 kilometers south of Bongaon and 17 kilometers east of Kamalabari. In the year 1902, the satra got divided into Natun Samaguri Satra and Prachin Samaguri Satra. (Tamuly 2014). The Satra of Samaguri is famous for its tradition of making hanndcrafted masks, also known as 'Moukha' using local and natural resources. Infact it is the only satra in Majuli which has kept this tradition alive for so many years. Tourists from various parts of the world come to see the famous 'Moukha Bhaona'- the art of performing acts that reflects the religious and cultural aspects of Majuli by wearing these masks. Of late, the popularity of 'Moukha Bhaona' and the demand of these masks are increasing world wide; hence it has emerged as a significant source of livelihood for these people. At present, the artisans make these masks not only for religious purposes but also for commercial purposes.

Tourism potentials of Majuli

Majuli holds immense potentials in different sub sets of tourism such as Cultural tourism, Rural Tourism, Eco Tourism, Craft Tourism and so on. The region witnesses an influx of tourists every year. The tourism industry provides employment to a significant size of the population in the form of hotels, resorts, local home stays, restaurants, transportation services, craft artisans, artists performing religious acts and so on. It serves as an alternative and supplementary source of livelihood for the people. Some of the important tourist attractions of Majuli are:

Raas Mahotsav

It is a festival celebrated annually in Majuli in the month of November. It depicts the story of Lord Krishna's life through performing arts. The various stages in Lord Krishna's life starting from his birth up to adolescence are portrayed by artists through songs, dances and lyrical dialogues. Every year tourists from various parts of the world gather around at this time to experience this unique culture and tradition of Assam.

Mask Making

The unique art of making masks is a tradition that is exclusive to Majuli, in the state of Assam. This tradition has been kept alive for years, and passed down through different generations in Samaguri Satra. It is one of the major drivers of tourism in Majuli. Tourists are very much interested to experience the process of making this exquisite hand crafted item made out of local and natural resources.

Diverse Ethnicity

Majuli represents a melting point of different ethnic tribes such as Naths, Misings, Deoris, Kacharis, Keots Mataks, Ahoms, Koches, and Chutiyas etc. Presence of such diversities is reflected in the languages spoken, religious practises, cultures and traditions of the communities living here. This ethnic conglomeration serves as an important attraction for tourists.

Natural Scenic Beauty

In today's fast paced world, where one is always surrounded by the concrete world, Majuli serves as a place for serenity of life. Tourists can find solace amidst the abundance of nature, flora fauna, and greenery present here.

Art and Crafts

The art and craft of Majuli reflects the rich culture and heritage of the place. It gives a unique identity in orld tourism and serves as an important area of tourist attraction. Some of the noteworthy crafts of

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Majuli are – pottery, handloom and weaving, boat making and the most prominent one is mask making. Every craft is a significant characteristic of a particular tribe or community. These crafts are bought by tourists as souvenirs, which when taken back home serves as a tangible reminder of the place visited by them.

BRIEF REVIEW OF LITERATURE

A) **UNWTO (2008) a report on the International Conference held in Tourism and Handicrafts in Tehran (2006)** was a first UNWTO and international conference where the focus was on linking handicraft with the tourism sector. The conference was supported by UNESCO, Iran Air and Iran Cultural Heritage and Tourism Organization (ICHTO). The conference discussed that tourism and handicraft could make a powerful and logical combination. Eloquent members of the UNWTO were found quoting that there is an urgent need to create a synergy between these two sectors to raise awareness about the reciprocal importance of both on each other. It was further mentioned that handicraft can create high added value for tourism and it contributes positively towards poverty alleviation, through creation of jobs and other socio-economic opportunities.

B) **Abyareh (2009),** in her research paper aimed at analysing the relation between tourism attractions and handicraft development in Isfahan. The paper cited three subsidiary purposes including (i) tourism attractions are effective on handcraft; (ii) tourism attractions are effective on development of occupations in handicraft section and (iii) tourism attractions are effective in increasing job opportunities in handicraft section. The results obtained for the above mentioned purposes were in the affirmative.

C) **Dutta (2015)** studies the buying behaviour of tourists among select villages of North-East India and also tries to identify the challenges faced by the craft businesses of those places. The population includes tourists, tourism intermediaries, traders of handloon and handicraft products and policy makers. Data was collected through the use of questionnaires, schedules and interview method. The results show that 10-12 percentages of people are engaged in the souvenir business. The revenue generated from this contributes towards direct and induced economic benefits for the local artisans. Further, tourists' originatig from different regions and belonging to different demographic profiles (age, gender, occupation, income etc) exhibit different pattern of spending on souvenir items.

D) **Tamuly et al. (2015)** focuses on the mask making culture of Samaguri Satra, situated in Majuli. The study is based on both primary and secondary data and the research design adopted for the study is descriptive. The results show that the traditio of mask making and wearing was prevalent in the region since the 15th century AD. It was first introduced by Sri Sri Srimanta Sankardeva in performing 'Bhaonas'. Mask making is a traditional practice, originated in the Samaguri Satra. The popularity and demand for 'Mukha' (mask) and 'Bhaona' increased, when after Hemchandra Goswami, son of the former Satradhikar, Late Rudrakanta Goswami got the Sangeet Natak Award and Pranab Barua Silpi Bota (2013) Award. Tourists from all across the world now visit Majuli to get acquainted with the satra culture and learn the art of making masks.

E) **Borkotoky et al. (2015)** have examined how tourism activity in Kaziranga National Park can lead to the economic empowerment of people through utilising their handicraft skills. The study has been conducted in two stages- in the first stage, ten villages, four from Golaghat district and three villages each from Nagaon and Karbi Anglong to assess the existing skill set of women residing there using Participatory Rural Appraisal (PRA) methodology. The results showed that the local women are skilled enough, they possess eight different handicraft skills, and however most of them are not aware that they can gain economic empowerment by involving themselves with the tourism industry. The methodology used in the second stage was Stakeholder Analysis, wherein different stakeholders such as tourism officials, forest officials, entrepreneurs, academicians etc were selected to gain qualitative information. Stakeholders have suggeted various crafts which can be regarded as attractive souvenirs. They have also suggested various training programmes to be imparted to the local women to further enhance their skills.

SIGNIFICANCE OF THE STUDY

Establishing linkages between the craft and tourism sector will create a mutually beneficial partnership. Handicrafts depict the cultural and traditional heritage of a place; therefore it can serve as an effective tool of promoting a particular tourist destination. Developing sustainable alliance between them will lead to the formation of a successful craft market and further generate the much needed employment and income opportunities for the craft artisans. The unorganised labour force belonging to other sectors apart from handicraft will also benefit from an additional and supplementary source of income. Attaining financial stability and self sufficiency is very important to raise the living standard of people. It will not only lead to reduced dependency on financial support and subsidies received from the government but also help to cut back the migration of people from rural to urban areas. Uniting the craft sector with tourism will further act as a seed bed for germinating entrepreneurship which is very much the need of the hour. It will provide ample of opportunities to the small and cottage industries to act as an allied unit for supplying raw materials and other inputs. Export earnings from sale of craft items will add to the foreign exchange earnings of the country. Last but not the least, a well developed and managed craft market linked and supported by the tourism intermediaries will lead to poverty alleviation through job creation and hence contribute towards the socio-economic development of the region.

OBJECTIVES OF THE STUDY

The objectives of the paper have been outlined as under

1. To evaluate the role of mask making culture in promoting tourism;
2. To identify the challenges and opportunities in the tourism-handicraft linkage

RESEARCH QUERIES TO BE INVESTIGATED

A. To what extend mask making is playing a role in promoting tourism in Majuli?

B. Whether there are any challenges and opportunities in linking the craft sector with tourism?

RESEARCH METHODOLOGY

a. Research Design

The present study is exploratory and descriptive in nature. It describes the state of tourism resources existing in Majuli. The paper also attempts to explore the possibilities of linking the craft sector with tourism.

b. Data Sources

The study is based on both primary and secondary data. Primary data have been collected from two sets of respondents – tourists (both national and foreign) and craft artisans engaged in mask making culture. Secondary data sources tapped for the purpose of this study were Tourist Information Centre Majuli, various seminar proceedings, journals, articles, websites, newspapers etc.

c. Sample Size

For the purpose of the study, the researcher has taken Samaguri Satra as it is the oldest satra engaged in the mask making culture in Majuli. A total of ten craft artisans are engaged in the production of masks in this satra, hence all ten artisans were taken for the survey. A sample size of 150 tourists boarded at different places was selected for the field study, out of which 125 respondents responded.

d. Sampling Technique Used

The researcher applied different sampling technique for the two different sets of respondents, i.e, tourists and artisans. The researcher has applied convenience sampling technique and has chosen those tourists that were nearest and available to participate in the survey. There are 22 satras at present in Majuli. For the purpose of the study, the researcher has selected one, i.e the Samaguri Satra based on her knowledge and judgement.

e. Data Analysis tools

Data collected from various sources have been classified, tabulated and presented using simple statistical tools and techniques.

SCOPE OF THE STUDY

(a) Geographic Scope - For the purpose of the study, data have been collected from tourists boarded at different satras and resorts such as Uttar Kamalabari Satra, Auniati Satra, Garmur Satra, Samaguri Satra, Ydrasill Bamboo Cottage, Borluit Bamboo Cottage and Dekasang Majuli through a well structured questionnaire. Data from craft artisans of Samaguri Satra have been through personal observation and direct personal interview method.

(b) Academic Scope – The study is based on the present state of tourism potentialities in Majuli. It attempts to examine the possibilities of using craft as a pull factor of tourism. In this endeavour, the researcher also attempts to highlight the missing links between the craft and tourism sector. Various other issues connected to different aspects of tourism have been kept outside the purview of this study.

PERIODICITY OF THE STUDY

The study was conducted between 2nd November, 2019 and 1st December, 2019. The study made during this period contemplates to understand the significance of the mask making culture in drawing tourists' attraction towards Majuli. Further attempts are made to enquire about the possible challenges/ constraints in the tourism-handicraft linkage in the duration of the above period. However, enquiring about the aforesaid challenges is an ongoing and continuous process and any possible updates after this period of time is not taken into consideration.

LIMITATIONS OF THE STUDY

The researcher has encountered the following limitations in the present study

1. The scope of this research extends over to only one district of Assam and one satra in Majuli; remaining districts and satras shall not be covered.
2. The main aim of this research is to gain insights into the feasibility of linking the craft sector with tourism industry, the researcher had to rely on the information supplied by the respondents selected as well as on the available secondary date. Hence the limitations pertaining to the information so furnished shall be applicable;
3. The craft of mask making has only been considered for the purpose of studying the possibility of tourism-handicraft linkage. There may be other crafts such as pottery, boat making, handloom etc which can attract tourists to visit Majuli.
4. A sample size of 150 tourists and 10 artisans were taken for the purpose of the study, which is not truly representative of the entire population.
5. Time constraint of the researcher was yet another limiting factor of the study.

FINDINGS AND DISCUSSIONS

The findings of the field study have been classified into two parts-

(A) Data collected from the tourists:

For the purpose of the study, a tourist is regarded as a person who is above 18 years of age and who travels and visits a place for fun and leisure activities. In this research paper, a person residing in India, outside the state of Assam is also regarded as a tourist. Data obtained from tourists by way of structured questionnaire are summarised as below:

Table 1: Demographic profile of respondents

Demographic Variables		Frequency	Percentage
Age (in years)	20-30	23	18.4
	30-40	47	37.6
	40-50	31	24.8
	50-60	12	9.6
	60 and above	12	9.6
Total		125	100
Gender	Male	68	54.4
	Female	57	45.6
Total		125	100

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Vol.40-Issue.89-March, 2020

Type of Tourist	National	26	20.8
	Foreign	99	79.2
Total		125	100
Personal Income (Monthly)	Below 10000	Nil	Nil
	10000-30000	4	3.2
	30000-50000	13	10.4
	50000-100000	09	7.2
	Above 100000	99	79.2
Total		125	100
Occupation	Service	68	54.4
	Self Employed	19	15.2
	Professional	24	19.2
	Student	03	2.4
	Others	11	8.8
Total		125	100

Source: Self compiled from primary field survey

ii.Table 2: Number of visits to Majuli

Number of visits	**Frequency**	**Percentage**
Visited for the first time	112	89.6
Visited Earlier	13	10.4
Total	125	100

Source: Self compiled from primary field survey

iii.Table 3: Purpose of visit to Majuli

Reasons	**Frequency**	**Percentage**
To see touristic attractions	20	16
To see and experience the unique culture, heritage and ethnicity of Majuli	58	46.4
To buy handcrafted masks produced in Majuli	41	32.8
Any others, if any	06	4.8
Total	125	100

Source: Self compiled from primary field survey

The above table shows that one of the prime reasons for tourists to visit Majuli is to see and experience its art and culture. A large percentage of the respondents, however are drawn towards Majuli for its unique craft, i.e the handmade masks, making it the biggest attraction of the place.

iv.Table 4: Type of souvenir purchased during visit to Majuli:

Type of souvenir	**Frequency**	**Percentage**
Masks	87	69.6
Pottery items	07	5.6
Handloom items	25	20
Any others	06	4.8
Total	125	100

Source: Self compiled from primary field survey

From the above table, it is clearly evident that majority of the respondents are interested in purchasing masks over others as a souvenir item, the craft being very authentic and a flagship to Majuli's identity.

Further, the results from the field study have shown that 56.8 percent of the respondents have heard about the availability of the craft items at Samaguri Satra in Majuli from the internet; second highest source are family members, friends and acquaintances who have visited Majuli before. This implies that the travel agencies and the tour operators need to come up with more advertisements and other strategies to capture this niche segment of the market.

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The results of the study reveals that about 88.8 percent of the tourists are very interested in witnessing the process of making the masks and appreciating the efforts that goes behind it. The Samaguri satra acts as a production cum sales outlet where tourists can not only see the process of making the masks but can also buy them directly from the artisans.

On being asked, 52.8 percent of the respondents said that they are willing to buy these masks even from hotels, airports, craft markets and retail outlets depending on the availability. Hence there is ample scope for linking the craft artisans with the tourism sector to generate higher demand of the craft items.

Apart from other factors such as price, quality, utility etc, 76 percent of the tourists responded that uniqueness and authenticity were the strongest influencing factors behind making the purchase of these masks. People mostly prefer authentic handcrafted products over machine made products.

(B) Data collected from the artisans engaged in mask making:

Some of the general findings obtained through direct personal interview reveal that the traditional art of mask making originated at Samaguri Satra and dates back to 15^{th} century AD. These masks were used by Srimanta Sankardeva during his perfomance of ‘Ankia Nats’ also known as ‘Bhaonas’ that took place in various satras. The practice of making masks has been continued since the establishment of the Samaguri Satra and passed down through generations. The masks made resemble certain characters related to their culture and religion.

The price range of the masks is between Rs. 500 to Rs. 50000. Presently there are ten artisans at this satra who are engaged on full time basis in production of these masks both for religious and commercial purposes. The annual production of masks goes up to 10000 pieces approximately. Due to limited number of people employed in the production of this craft, the demand is not met fully, especially during the peak season, many tourists interested in buying these masks have to return empty handed.

There is no external source of funding for the craft artisans. A portion of the profit generated from the sale of these masks are employed back to purchase the required raw materials. So far, the artisans have not availed any loans from banks and other financial institutions as far as their working capital needs are concerned.

The art of mask making is a tradition that has been handed over from one generation to the next. Hence they have not tapped any external external sources for their training needs. In the recent years, the craft has gained popularity and also been able to attract a lot of tourist attention. The enquiry revealed that a team of senior artisans were being invited to Universities located in Russia and Germany to provide training on the making of these masks.

Despite achieving recognition and popularity in the world tourism market, there exist a lot of challenges in developing sustainable linkages between the handicraft sectors with tourism. The study reveals some of the major challenges such as:

i. Lack of appropriate market linkage is the most prominent challenge in developing the tourism handicraft linkage in Majuli. The department of State Tourism Development should take measures to ensure a consistent and steady demand of the craft items by the tourism intermediaries such as hotels, resorts, airports etc;
ii. Absence of individual craft shops/ vendors at the places of tourist attractions is yet another factor that needs to be take care of because maximum tourists like to make purchases at these sites;
iii. Lack of proper integration with packaged tours by hotels and travel agencies and also lack of partnership with tour guides and retail outlets acts as a hindrance to developing tourism-handicraft linkage.

Along with the afore mentioned challenges, the researcher has in the course of her study also found some opportunities that comes along with building a partnership between the two sectors, viz. craft and tourism such as:

i. Integrating the craft of mask making in the tourism value chain of Majuli will broaden the Basic Service Package (BSP) of the tourism industry and make its product more diversified and attractive;

ii. The tourism industry can act as a potential customer for the craft artisans of Majuli to sell their local handcrafted items. Tourists can provide an external market to the craft artisans which will also help them in obtaining a sustainable source of livelihood;

iii. Demand from tourists for the masks and other crafts also provide the opportuity of having a regulated craft market. The craft market in Bangkok, known as the 'Chatuchak Market' is the biggest flea market of Asia and a major source of tourist attraction.

SUGGESTIONS AND CONCLUSIONS

Culture is intangible. Nothing can add to the travel experience of a tourist more than a handmade original craft item. Tourists now a day are always on the search for authentic products that they can carry back to their homes. Majuli as a tourist destination offers a unique experience in the form of its rich culture and heritage. Tourists coming to Majuli leave with a first hand experience of witnessing the traditional practice of mask making and vaishnavite culture. In fact the study reveals that one of the major drivers of toursim in Majuli is its art and craft. Despite this, Majuli has not been able to exploit its craft potential to the fullest.

From the study, it has been found that during peak seasons, artisans even though engaged on a full time basis cannot meet the demand of the tourists. Consequently many tourists even though willing to purchase the masks, return empty handed. Also, to buy these masks, the tourists have to visit the Samaguri Satra, since these are not available anywhere else in Majuli. Anyone not aware of the Samaguri satra might miss out on this important attraction. Absence of proper promotion, infrastructural facilities, tour guides, road maps and lack of a regulated craft market are amongst few of the prominent factors for this.

The study highlights the fact that mask making culture is an important aspect of Majuli's Tourism and is contributing towards attracting tourists all across the world. Facilitating better market linkages in the form of generating demand from tourism intermediaries, partnership with tour operators, guides, retail shops, designing excursions and day tours to the Satras etc can open new vistas for tourism in Majuli.

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ACCESS TO POWER: BHAUMAKARA QUEENS RULE IN ODISHA

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ABSTRACT

Indian society has been patriarchal for the most part of recorded history that women are socially deprived of having their history. Women are ignored in history because of the assumption that they did not play a part in administration. We had a less number of elite known women who accessed power and authority like Rezia Sultan who ruled Medieval India. But in Odisha, Seven female rulers of the BhaumaKara dynasty (c.736 A.D. to 949 A.D.) ruled in eastern India between 8th and 10th centuries. The rule lasted for nearly two hundred year span that lasted from c.736 to 949 A.D. There were even instances of when an ancient Indian king died without leaving any male child, usually his widowed queen accepted a boy as an adopted son and this boy was raised to ascend the deceased King's throne. But the Bhaumakaras of Odisha did not adopted male child. The queens of this dynasty often succeeded the kings, assumed royal titles and ruled with full political power. There was no prevalence of Sati and Purdah as widow queens also ruled the kingdom. In Odisha the practice of raising a queen to the vacant throne of her dead husband seems to have been more popular with the people they ruled.

In this paper attempt is to understand access to power from a gender perspective and emphasize is on the queen's rule. The rule of this Bhaumakara dynasty in the history of Odisha is unprecedented as it sheds light on the independent reign of no less than seven queens regnant out of nineteen rulers. Here we analyze the power and position of the Bhaumakara Queens through their socio-religious freedom, the titles' claimed; whether she ruled or was she part of the administration, their right to issue land grants, place in genealogy as well how they assert their right to rule can be some ways in which access to power could be ascertained. The focus of the work is on Queen's rule. Even there was power contestation in the region, the Queens mark out their position very clearly as the rightful heir to the throne. Some of these queens ruled as in most cases not only as a regent queen but rather as regnant. The Bhaumakara queens rule can be inferred from their inscriptions/land grants which make it a unique case study.

In India women were treated with great respect and placed in high esteem during the ancient period. Though Queens in India were respected and esteemed, when her participation in religious rituals was essential with her husband but she had no access to power and authority. Mostly history has largely been the story of kings engraved by man about his battles, buildings, monuments, religion and his heroic myth. Women have largely excluded or ignored, have been made invisible. Often we observed in history, monarchy failed to consider woman as ruler. But the access to power and authority by Bhaumakara Queens of Odisha is significant in the history of India. Historical accounts reveal that women held and transacted property ruled as successors and succeed as rulers and the socio-religious milieu was not regressive toward them. There are references in inscriptions, monuments, literatures and sculptures that queens contributed a lot not only to enrich the family life in social sphere, or religious activities but also their performance in political life was amazing. In the context of the present study, the Bhaumakara Dynasty represents a unique pattern in terms of access to power and authority by Queens.

The source of the present study are the stone inscriptions and copper plate grants. The language of inscription is Sanskrit. As many as twenty five records of this dynasty have so far come to light. Some of the inscriptions are available in the Orissa State Museum. Grants were made by both kings and queens of this dynasty. Copper plate grants are donation of lands and the stone inscriptions are found engraved on temples, images and caves. Also inscriptions of feudatory chiefs of Bhaumakaras and other contemporary ruling dynasties provide information about Bhaumas. The accounts of Arab and Persian geographers also are the source of information. Study made on the published epigraphic records of this dynasty and translated works of the foreign accounts. The date mentioned in these inscriptions may refer to Bhaumakara's own era. There is no unanimity with regard to the dates mentioned in these epigraphs among historians. However, the year 736 A.D. is generally taken as the initial date of the Bhauma era.

In the patriarchal social set-up, the social institutions and norms are constituted in such a manner that women are socially deprived of access to political power. Their contribution mostly related to socio-religious work. In this paper attempt is to understand access to power from a gender perspective and emphasize is on the queen's rule. Here we analyze the power and position of the Bhaumakara Queens through their socio-religious freedom, the titles' claimed; whether she ruled or was she part of the administration, their right to issue land grants, place in genealogy as well how they assert their right to rule can be some ways in which access to power could be ascertained. Here is a limitation of the work as we have taken the access of power by queens at the elite ruling class; it's not about women in general. The narration on Bhauma king is limited. The focus of the work is on Queen's rule. Even there was power contestation in the region, the Queens mark out their position very clearly as the rightful heir to the throne. Some of these queens ruled as in most cases not only as a regent queen but rather as regnant. The Bhaumakara queens rule can be inferred from their inscriptions/land grants which make it a unique case study.

The **BhaumaKara dynasty** (c.**736 A.D. to 949 A.D**.) ruled in eastern India between 8th and 10th centuries, their kingdom, called Toshali, included parts of present-day Odisha. The rule of *this dynasty* in the history of Odisha is significant as it sheds light on the independent reign of no less than seven queens regnant out of nineteen rulers. The capital of this ***dynasty***, called Guhadevapataka or Guhesvarapataka was situated near modern Jajpur town of the Jajpur district, Odisha. The foundation of this dynasty commenced in c.736 A.D. and the rule lasted for nearly two hundred year span that lasted from c.736 to 949 A.D. According to B. Mishra, **Lakshmikara*** was the father of Kshmenkara. However, **Kshemankaradeva** appears to have been the real founder of the Bhauma kingdom. He was succeed by his son **Sivakaradeva I** (c.755-790 A.D.) who held control over most of coastal Orissa. He further extended the Bhaumakara Kingdom and by 850 certainly he ruled over most of what is now modern Orissa. The mother of Sivakaradeva I was queen *Vatsadevi*, mentioned in a votive inscription on an image of Goddess Chamunda at Jajpur and mention of his queen's name *Jayavallidevi*, in Chourasi plate of Sivakaradeva III prove the point that women had the power to inscribe their name with prestige. Sivakara I was succeeded by his son **Subhakaradeva I** (c.790-805 A.D.), who issued the Neulpur Copper Plate grant in Samvat 54 (790 A.D.). The Hamesevara Temple inscription of Jajpur reveals that queen *Madhavadevi*, wife of Subhakaradeva I**,** built Madhavesvara Siva temple and appointed a Saivacharya for the worship of the deity. She also excavated a tank close to the temple and established a market in its vicinity. This shows the queen is associated with the socio-religious welfare activities of the kingdom. The next ruler was **Sivakaradeva II** (c.805-825 A.D.) and his queen *Mohinidevi* of Bhavan family who was a Saiva by faith had built the Mohini temple of Bhubaneswar. He was succeeded by his younger brother **Santikaradeva I** (c.825-835A.D.). The queen of Santikara I was *Gosvaminidevi* the daughter of Rajamalla I of Nagabhavakula. The marriage marked a turning point in the political history of Bhaumakars as she ascended the Bhauma throne after his son. Santikaradeva I was succeeded by his elder brother's son **Subhakaradeva II** (c.835-838A.D.). At the request of his queen *Narnnadevi*, he issued the Terundia copper plate in samvat 100 dated 836 A.D., granting the village Lavagunda of South Tosali in favour of six Brahmins. Thus the profuse mention of name of queens in the inscriptions and their power to issue copper plate grants prove that they enjoyed political rights. The Hindol copper plate grant dated samvat 103 (839 A.D.) throws light on **Subhakaradeva III** (c.838-843 A.D.). After a brief rule, he died issueless. So his mother *Gosvaminidevi*, the widow queen of Santikaradeva ascended the throne by assuming the imperial title "Tribhuvana Mahadevi".

TribhuvanaMahadevi I (c.843-861 A.D.) was the first known monarch queen to take the rein of Bhauma administration. It is stated in the Talcher Plate of her great grandson Subhakaradeva IV that Tribhuvanamahadevi succeeded her son Kusumahara/Subhakara III and carried on the administration of the kingdom very efficiently. Here, she is compared with Sesa-Naga who bears the burden of entire earth on its hoods. Her own Dhenkanal Plate dated samvat 110 corresponding to 846 A.D., which informs us that she was the daughter of Rajamalladeva, already identified with Rajamalla I (817-835) of the western Ganga dynasty of Mysore. It is also stated in the aforesaid plate that, being a female, she

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Vol.40-Issue.89-March, 2020

was at first reluctant to ascend the throne, but when the nobles and feudatories of the kingdom cited the example of Gosvamini Devi, a preceding female ruler of the family, she agreed to accept the throne. However, Gosvamini Devi I otherwise is unknown to us from any record of the dynasty, and hence cannot be identified. The Dhenkanal plate clearly states that Tribhuvanamahadevi had many qualities of head and heart. She is devotee of Lord Vishnu. In this copper plate grant she is also addressed as Devi Sri SiddhaGauri. She issued the grant for the enhancement of merit of self, parents and all. She has used the imperial seal in the copper plate grant and assumed the full imperial epithets i.e. *Paramabhattarika, Maharajadhiraja and Paramesvari* like the preceding kings of the dynasty.

During the time of her predecessors the Bhaumakara kingdom had become a victim of foreign aggression and had lost its former prestige and power. This is borne out by her Dhenkanal plate which states that at the time of her accession "the kara family had to depend upon nothing but their past glory" and that "the kingdom looked like a female who had a distressful heart". Perhaps, Tribhuvanamahadevi retrieved the lost prestige of the kingdom with the help of her father Rajamalla I, who was a very powerful king of his time. She foiled invasions by the Palas of Bengal and Rastrakuta. She maintained an effective hold over her vassals, who bowed down to her with devoted loyalty. For as ordained in the ancient texts she did not covet the lands of the kings she had defeated, but placed on the throne of the defeated country, the brother, son or grandson of the vanquished king , and if none of these was available , the daughter of the king. Taxation was light during her time. She appointed officers "of pure character and clean hands". She was prudent and loved state-craft as much as her son. It further mentioned that she was "magnanimity incarnate" like her illustrious predecessors".

The Talcher plate of Subhakaradeva IV pays glorious tribute to her as an ideal ruler in the following words, "During her rule the country advanced in three branches of administration, the foes were extirpated, the glory spread abroad and there was harmony among the people". Her Dhenkal plate further praises that she enjoyed an unparalleled fortune and during her reign the stability and prosperity of the kingdom remained unimpaired.

Tribhubanamahadevi maintained an army of thirty thousand men. The power and prosperity of the kingdom in her reign of this notable female ruler is also indicated by the accounts of Ibn Khurdodhbih, which state that the Dahum (the Bhauma ruler) maintained a large army of 300,000 men and that it did not recognize the suzerainty of any other power. She promoted the general happiness of the people by building pools, wells, bridges and roads. She performed religious duties and endowed temples with daily offerings. She participated in the rites and discussion of religious doctrines. She kept her officials in check so they did not oppress the people. She helped those in distress by maintain charitable houses and by making offerings to the poor and needy. She provided resources against the disasters of famine, war and pestilence. She promoted education. She was a great patron of art and architecture. She made the trade flourish of large elephants, pepper, aloes, rattan, cotton and the white conch. She ruled in her own right, issuing proclamations and copper plate inscriptions under her own name. She proved herself intelligent and competent ruler who was able to restore Orissa‘s prosperity and keep the kingdom at peace thus initiating Orissa's Golden age.

The Talcher Plate, samvat 141, of Subhakaradeva IV states that she abdicated the Bhaumakara throne in favour of her grandson Santikaradeva II when he was considered to be sufficiently mature of age to bear the burden of administration of kingdom. Being, the first known queen of the Bhauma family she was a source of inspiration to the subsequent women rulers of Tosali.

Santikaradeva II (c. 861-880 A.D.) succeeded to TribhuvanaMahadevi I. However no charter of Santikaradeva II has yet been discovered. But the Talcher plate dated samvat 149, of his son Sivakara III refers to his marriage with *Hiramahadev*i, the daughter of king Simhamana of the Mana dynasty. She is described as Maharajadhiraja Paramesvari Sri Hiramahadevi in the Talcher plate of her son Subhakaradeva in samvat 141, which indicates that she may have assumed the rein of administration after the death of her husband because all her sons were minor at that time. But she has not mentioned in any plate as reigning monarch queen. No further facts about her can be gleaned from the sources yet known to us. The next ruler was **Subhakaradeva IV** (c.880-884A.D.) the eldest son of Santikaradeva II**,** known to us from his Talcher plate grant of samvat 141. From the Baud Plates it is known that he married *Prithivimahadevi,* who being the daughter of a powerful king Janmejaya I, the Somavamsi ruler

 ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

of south kosala, played a significant role in the Bhaumakara history. As Subhakaradeva IV died childless, he was succeeded by his yonger brother **Sivakaradeva III (**c.884-893 A.D.), known from his Talcher plated dated samvat 149. The death of Sivakaradeva III was followed by a struggle for succession to the throne.

The throne was usurped by *Prithivimahadevi* alias **Tribhuvanamahadevi II** (c.893-895 A.D.) even though Sivakara III had two sons. The Baud Plate of Tribhuvanamahadevi II, dated in the Bhauma year 158 (A.D. 894) records that after death of Sivakara III, Subhakara IV's queen Prithivimahadevi took up the charge of administration because Subhakara IV and his brother Sivakara III died heirless. It may be a deliberate attempt to ignore claims of Sivakara's sons. In imitation of the first reigning queen of the family, she assumed the name of Trbhuvanamahadevi II and the epithet of Sindagauri and Paramavaisnavi. D.C. Sircar believes that she could ascend the throne and consolidate her position in Tosali, very probably due to the help of her father Janmejoya I, the Somavamsi ruler of Kosala. Her object of union of Tosali with the kingdom of Kosala was not liked by the Bhauma officials and ministers. They were not prepared to accept the Somavamsis' intervention in the internal affairs of the Bhaumakaras. So at the time of her brother Jajati Ist's rule, when he was engaged in fighting against the Kalachuris, the Bhauma ministers took advantage of his absence and deposed Prithivimahadevi.

Then the ministers requested the widow queen of Sivakara III to ascend the throne and save the prestige of the Bhauma kingdom. Therefore she ascended the throne by assuming the title of **Tribhuvanamahadevi III** (c.895-905 A.D.). Trbhuvanamahadevi III issued the Dhenkanal plate in the year 160 (896 A.D.) and she is different from Tribhuvanamahadevi Goswaminidevi. She assumed the imperial titles of Parama-bhattarika, Maharajadhiraja Katyani. It has mentioned that her lotus like feet was kissed by all feudatory chiefs with loyalty. This means the feudatory rulers recognised her supremacy. She is described as the symbol of magnanimity, the bud of the tree of modesty, the storehouse of the honey of courtesy. After Tribhuvanamahadevi III her two sons **Santikara III and Subhakara V** (c.905 to 909 A.D.) ascended the Bhauma throne one by one. However no charter found issued by these two rulers. The next ruler in order of succession was her elder son Santikaradeva III of whom nothing is known except the fact that he married Dharmamahadevi. The Kumurang plate of Dandimahadevi mentions about these two rulers. Then his younger brother Subhakaradeva V ascended the throne. From a copper plate grant of his queen Vakulamahadevi it is known that he had two queens, another queen's name was Gourimahadevi. It has been observed that after the death of Subhakara V, the last known male ruler, the power and authority has been accessed by four queens successively. It is significant to note that none of them adopted a son.

Subhakara V was succeeded by his first queen **Gourimahadevi** (c.909-914 A.D.) as is known from the Talatalai plate. When her husband died, she ascended throne of her husband to keep the request of all her people. No charter of her time has been discovered as yet. She was however able to maintain law and order in her kingdom as the Kumurang plate of Dandimahadevi, samvat 187 mentions that, "at her lotus-like feet prostrated the entire population of the kingdom and who shone like Goddess Gauri". She adorned the throne for a long time.

The next ruler was **Dandimahadevi** (c.914-934A.D.) daughter of Gaurimahadevi. She issued half a dozen charters, viz, the two Ganjam grants, the Kumurang grant, the Santigram grant, the Ambagan grant and the Arual grant. Her known dates are the bhauma years 180 and 187 i.e. c.916 and 923 A.D. These grants highly praise her. The Kumurang Plate mentions after the death of Gaurimahadevi, she took the charge of the kingdom for long period. Further it praises as she was devoted to her duty. She maintained absolute authority throughout her kingdom. Furthermore, she secured the borders of her kingdom from "formidable and hostile kings" who were "humbled by her prowess". She had maintained a good number of officials. The seal of Kumurang contains the legend Srimad DandiMahadevi. In her records she used the imperial titles of Parama-mahasvari, Paramabhattarika. Maharajadhiraja Paramasvari. This indicates she was a powerful sovereign ruler of entire Tosali kingdom. The fact has been further corroborated by the land grants made in both Uttara and Dakshina Tosali. She was unmarried. Her rule was peaceful. The description of pearls and gems in her records indicate the prosperity of her kingdom. She not only possessed grace and charm but successfully maintained her authority over the entire Bhauma Kingdom.

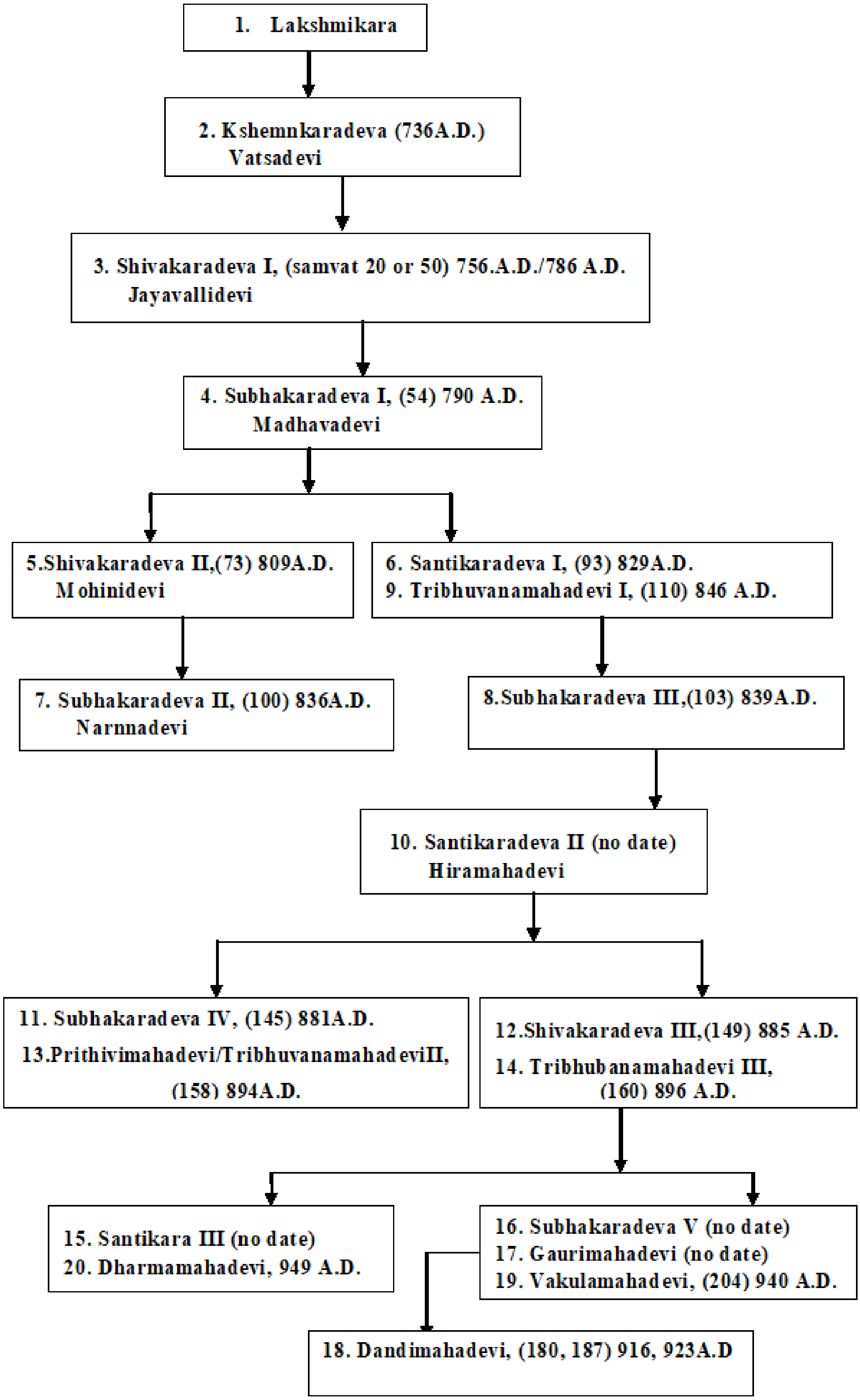
Dandimahadevi died a premature death who was succeeded by her step-mother **Vakulamahadevi** (c.934-940 A.D.), who was born in the Bhanja family. From the Taltalai Copper plate grant of Dharmamahadevi, it is known that Dandimahadevi was succeeded by her step-mother Vakulamahadevi. She is described in her own record and in the Taltalai Copper plate grant of Dharmamahadevi as "an ornament like a flag with insignia in the family of the Bhanja kings, instead of an ornament like a flag with insignia in the family of Kara kings". The queen had issued one copper-plate in which she donated a village of Uttar Tosali in Samvat 204 (940 A.D.). She mentions herself as the rightful claimant after her mother.

DharmaMahadevi (c.940-949 A.D.) accessed the power after Vakulamahadevi. She was the wife of Santikaradeva III. She had issued Angul charter and the Taltalai plates which are undated. The Angul charter was issued during the reign of her husband, records that the village Desala has been granted by means of copper plate for the increase of merits of Sri Dharmamahadevi and her parents. Here, she is described simply as Sri Dharmamahadevi without any title. But in the Taltalai plate, she has ascribed with full imperial epithet as Parama-bhattarika-Maharajadhiraja Paramesvari. She was the last known ruler of Bhauma-kara dynasty. Towards the middle of the tenth century A.D., the Somovamsi Ruler took possession of the Bhaumakara kingdom and continued their rule in Odisha.

During the Bhaumakara dynasty under strong sovereign the feudatories were controlled and were prevented from making continual war as was their practice when the ruler was weak. The ruling queens of this dynasty, worked very closely with their feudatories. The Bhauma epigraphic records reveal that even female rulers presided over the assembly of their feudatories. Throughout Orissa around the time of the Bhaumakaras there was great religious tolerance. The queens of the dynasty were free to have their own religious faith. Bhaumakara Queens freely gave land grants of villages, forests and streams to temples of their own religious persuasion, which was frequently not that of their husband's. They excavated tanks, constructed temples, and established market place. At that period there was prevalent of Purdha and Sati practices in different parts of India. But the system of purdah was not very much vogue in the Bhauma society, since we do not get sculptural depiction to it in the temples assigned to this period, nor in the literature of this period. The practice of Sati was also unknown to the society of ancient Odisha as we got reference of widowhood. The Bhaumakara queens, Tribhuvana Mahadevi I, Prithvi Mahadevi, Gauri Mahadevi, Vakula Mahadevi, Dharma Mahadevi reigned as widow queens after the death of their husbands. On the whole, it seems women occupied a better position in the society during the Bhaumakaras of Orissa.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

**Genealogical and Succession Tree of Bhaumakara Dynasty



In fact during that time the norm was the monarchical system of government, based on the principle of heredity. Access to power by the Queens of the Bhaumakara royal family was unprecedented phenomenon in the political history of Odisha. All the Queens were actively associated with the administration of the kingdom. Seven female rulers of this dynasty took up the rein of administration, perhaps on account of their superior ability. These queens assumed the full imperial titles i.e. Parama-Maheshvari, Parama-Bhattarika, Maharajadhiraja and Parameshvari. These titles are equivalent with the titles claimed by the earlier kings. All these queens frequently were involved in issuing land grants and land charter: more than half of the extant Bhaumakara records are dedications made by the queens of this dynasty. They could dispose of land as they like, means that they had access to power, education, statecraft and wit to do so**.** Their right to issue inscription and land grants, using imperial titles & seals prove their power in political sphere to successfully discharged administrative responsibility of their kingdom. The appointment of various officers' as mentioned in the copper plate grants points to the fact that the Bhauma queens established a well-organized Government. This shows that the female rulers enjoyed equal power and status as the male rulers of the dynasty.

It was only in Orissa under the Bhaumakaras that women ruled in their own right, even male heirs were available, and even, it is presumed, that these queens had been trained both in the art of warfare and the system of administration which enabled them to administer the extensive Bhauma kingdom with success. Outside Orissa women ruled as regents for their sons, natural or adopted or in absence of their husbands. There were even instances of when an ancient Indian king died without leaving any male child, usually his widowed queen accepted a boy as an adopted son and this boy was raised to ascend the deceased King's throne. But the Bhaumakaras of Odisha did not adopted male child. The queens of this dynasty often succeeded the kings, assumed royal titles and ruled with full political power. It is significant as they ruled independently as full sovereign rulers and were supported by their nobles, ministers and feudatory chiefs. The land grants shows that queens mentioned that the access to power and authority by them as the rightful claimant to the throne. But in Odisha the practice of raising a queen to the vacant throne of her dead husband seems to have been more popular with the people they ruled. It is thus gratifying to note that Odisha accepted women as their rulers. Evidently, Bhaumakara Queens Rule is significant in the history not only of Orissa but also of India.

Notes

* The Neulpur plate of Subhakara I, dated possibly in the 54 mentions Maharaja Kshemankaradeva as father of Sivakaradeva I and earliest member of the family. The later records of the family represent Lakshmikara as the pro-genitor of the family. B. Misra is of opinion that Lakshmikara was the father of Kshemankara, while' D.C. Sircar regards them as identical. Both the views are unsupported by any cogent evidence. Since these two names are quite distinct, it is natural to regard them as two different persons Lakshmikara was probably the earlier of the two.

** The attempt to draw the genealogy, chronology and succeseccion table is based on B.Misra's "*Orissa Under Bhauma Kings*", K.C.Panigrahy's "*Chronology of the Bhauma-Karas and the Somavamsis of Orissa*", Kumudini Barei's "*Role of Women in the History of Orissa*", N.K.Sahu & others, "History of Orissa", Biswarup Das's "*The Bhaumakaras and their Times*".

***The translated version of copper plate grants studied from Binayak Mishra, *Orissa Under Bhauma Kings*, The Viswamitra Press, Calcutta, 1934 , this book contains useful descriptions of the dynasty's inscriptions.

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ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

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DADDY AN AUTOBIOGRAPHICAL POEM BY SYLVIA PATH

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Abstract
There are several types of entertainment. Literature is one of them and most popular since ancient era. Lyrics are always known and favourite in each era. There are several genres of poetry as lyrics, ballad, ode, sonnet, epic, verse, blank verse, elegy etc. There are many poets who wrote autobiographical poems and their own experiences. Moreover after the feminist movement, there are several women, who openly started to write their one experiences in poems as Kamala Das Reflection in the Mirror, Still I Rise by Maya Angelo, Daddy by Sylvia Path and so on. The female were treated very badly in European countries before the feminist movement. Even from father-side, they got worst treatment than animal Daddy by Sylvia Path is an example of it. In this poem, the narrator has very hatred feelings for her father, for her daddy. The current research paper is an attempt to focus on the hatred feelings of a daughter for her father.

Keywords: Daddy. Silvia Path, vampire, feelings, murder, killing, black shoot etc.

Introduction
Male and female are equally born as the child of God. But the male dominating society has given secondary treatment to women. They are treated as slaves of men. They were sold in the market as the object of men's pleasure. Even before the feminist movement a daughter by her own father was treated very badly. They were just a slave in their family who has no rights to speak in front of father, they were bitten by father, and the image of father is just like a vampire to them. It was seen in the poem of Sylvia Path entitled as Daddy. She was a significant American confessional poet whose period was of the post- world-war II period. She Born on 27 October 1932 in Boston. She was the child of German emigrant who became a professor of biology at Boston University named Otto Plath. He was an Aurelia schooner, an American of Austrian-Hewish descent.

Her father was died when she was only nine and it was a traumatic even in her childhood and figured as an obsession in her poetry. But she was under such a anxiety and fear that she suffered a lot which she reflected in her poem Daddy.

The line starts with her words as,

"You do not do, you do not do Any more, black shoe

In which I have lived like a foot For thirty years, poor and white, Barely daring to breathe or Achoo.[1]" (Poem Daddy)

With these lines the poet expressed her views about her father that she felt her father as the black shoe and she felt that she lived in that black shoe as a tied foot for more than thirty years and very rarely she could breathe. The poet starts with the above lines as he "does not do anymore." In other words we can that she seems like she has been a foot living in a black shoe for thirty years, too timid to either breathe or sneeze. She further continued that she needed to kill Daddy and she refers to 'him' word to her "Daddy."

The fact is that that her father died at her early age but she killed her more than thirty years. She called her father as heavy as a "bag full of God." It resembles a statue with one big gray toe. It is a head just like a submerged in the Atlantic Ocean. She remembers how she at one time prayed for his return from death, and gives a German utterance of grief (which translates literally to "Oh, you").

The Speaker expressed her feelings for Daddy as,

"Daddy, I have had to kill you.

You died before I had time——

Marble-heavy, a bag full of God,

Ghastly statue with one gray toe Big as a Frisco seal.[2]" (Poem Daddy)

The Speaker suffered too much from her father, though he was educated and working on the prestigious post, he treated badly to women even to his own daughter, so as a part of her heartedness, she killed her father so many times in her imagination even after his death. And these above lines show her heartedness for her father and her worst treatment given by her father to her.

Setting of the Poem

The poem "Daddy," comprised of sixteen five-line stanzas. It is a brutal and venomous poem. It can be commonly understood as the autobiographical poetic sketch of Plath's deceased father, Otto Plath. We found the sense of contradiction in this poem in respect to the rhyme scheming and organization of rhymes. It uses a sort of nursery rhyme, singsong way of speaking. There are hard sounds, short lines, and repeated rhymes as in "Jew," "through," "do," and "you"). This establishes and reinforces her status as a childish figure in relation to her authoritative father. This relationship is also clear in the name she uses for him - "Daddy"- and in her use of "oo" sounds and a childish cadence. However, this childish rhythm also has an ironic, sinister feel, since the chant-like, primitive quality can feel almost like a curse.

Silvia knows that Daddy, her father comes from a Polish town. This polish town was overrun by only "wars, wars, wars." She says in the poem that one of her Polack friends has told her about this town as there are many towns with the same name. Hence, she cannot expose which is his hometown and where he put his "foot" and "root."

Relation of a Daughter with Her Father

Even further she discussed on her relationship with father that she could never find a way to talk to her Father-to talk to her Daddy. This she reflected in her poem as her own experiences, so this poem can be called as an autobiographical poem.

Even before she could speak, she thought every German was same to him. She found the German language as an "obscene." Further, she felt very distinct from him. She believed herself as a Jew being who has been removed to a concentration camp. So she started to talk like a Jew and to feel like a Jew in several different ways. She wonders in fact, whether she might actually be a Jew, because of her similarity to a gypsy. To further emphasize her fear and distance, she describes him as the Luftwaffe, with a neat moustache and a bright blue Aryan eye. She entitled her Daddy as a "Panzer-man." She further says that he is not like God and she does not like her father. The swastika which is symbol of brutal or black deed of Hitler she called it as like the black swastika through which nothing can pass. We can see her own opinion about her Daddy and the behaviour of men towards women as, "Every woman adores a Fascist," and the "boot in the face" that comes with such a man.

Comparison of Daddy with Several Objects

She always thinks and compares her daddy with standing at the blackboard, whenever she remembers him. He stands instead of a cleft foot with a cleft chin. Here it does not make him a devil but he is like the black man who "Bit [her] pretty red heart in two." though he died when she was of ten years old, she tried to join him in death when she was twenty. She was glued back together, when that attempt failed. Here at this point, she realized her course.

She made a model of Daddy and gave him entitled as both i.e a "Meinkampf look" and "a love of the rack and the screw." She promises him that she is "finally through;" the telephone has been taken off the hook. She further continued that her voices can no longer get through to her.

She becomes so violent about her approach towards her daddy that she considers that if she has killed one man, then she has in fact killed two. She compared her father as a vampire. She remembers how he drank her blood for a year. She realizes the duration which was closer to seven years. She declares in this poem that he can lie back now. For her, in his heart, there is a stake. Even she says that due to her father's nature as inhuman, the villagers who reviled him now celebrate his death with dancing on his corpse. She concludes the poem by announcing, "Daddy, Daddy, you bastard, I'm through."

Conclusion

Thus, “Daddy" is Sylvia Plath's best-known poem. It has obtained a variety of distinct reactions. If we see it with the feminist approaches, it is untouched rage towards male dominance and male’s approaches towards female in that period. It is an approach of male towards the women as to wariness at its usage of Holocaust imagery. It has been reviewed and criticized by hundreds and hundreds of scholars, and is upheld as one of the best examples of confessional poetry. This poem is little bit tough to understand. It has a violent imagery, invocation of Jewish suffering, and vitriolic tone. It can make the poem as decidedly uncomfortable reading of poet’s experience. We can define this poem as Plath's journey of coming to terms with her father's looming figure in which her father died when she was eight but she throws herself as a victim. She portrayed him in several figures such as a Nazi, vampire, and devil. Further she a resurrected figures her husband, whom she has also had to kill.

We can conclude it with Plath’s words which she explained the poem briefly in a BBC interview in her own words as,

“The poem is spoken by a girl with an Electra complex. The father died while she thought he was God. Her case is complicated by the fact that her father was also a Nazi and her mother very possibly part Jewish. In the daughter the two strains marry and paralyze each other –she has to act out the awful little allegory once over before she is free of it.” This all reveals that the poem Daddy is her own autobiography in which she explained her experiences, behaviour and approach that she had from her Father- a representative as a worst male dominating behaviour and approaches towards women in European Country.

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FOOD COLOUR AND CHEMISTRY

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Abstract
Food additives are wont to protect food, increase quality and extend time period in many stages, from production toconsumption of food. Additives utilized in the food industry are added to the food during preparation, production, and packagingand storage stages. Colorants added by food producers to paint food or to regulate the colour to desired level are among thecommonly used food additives. Since today's emerging production tools, foods dwindle or discolour at numerousstages of processing, storage, and sale thanks to physical and chemical conditions like heat, light, pH and oxygen.Colorants are wont to regain these color losses, to reinforce weak colors, to offer color to the food that's actually colourless, and to get back the favour of consumers by hiding inferiority. Colorants are utilized in the assembly of sentimental drinks, candies,bakery products, canned and vegetable products, dairy products, and meat and fish products. The paper emphasises on the study of food colour and chemistry.

Keywords: Food colour, colourant, additives, dye, natural, synthetic

1. Introduction

The need of using additives within the food industry arises from technological requirements. Additionally, factors like theincrease within the world population, the decrease in staple resources, and therefore the tendency of individuals to boost the livingstandards are affecting technological developments. Different production techniques, diversification of products,increase within the tendency of seasonal foods to be consumed in every period of the year, extension of time period of theproducts and necessity of quality standardization have made the utilization of food additives compulsory in food sector.The colorant additives utilized in the food industry are added so as to feature color to the food during processing andstorage [2-3]. Colorants differ from one another by various physical and chemical properties like chemical structures,sources and usage purposes. During this paper; information on food additives, colorants and general properties of colorants,usage purposes and health issues is provided.

2. Colour and Colorants in Foods

Usually the properties of food like shapes, colors, tastes, smells and textures are improved to satisfy consumerexpectations. Color is one among the foremost significant factors that directly affects consumers' food choice and eating desires. Color may be a visual feature that arises from the spectral distribution of the sunshine. The formation of sunshine occurs fromthe interaction of matter and lightweight, and humans see wavelengths between 380-770 nm. As for the opposite matters innature, the colours of the food also are supported this fundamentals. Today, obligations to thedevelopment of the food industry, the necessity to colorize food products has increased for various reasons.

3. Classification of Colorants

Directives on colorants are examined in 3 groups. These are as follows:

1. Colorants whose ADI values are determined and allowed to be used,
2. Colorants permitted to use just for special purposes (such as surface finishing) (CaCO3, aluminum, silver, gold),
3. Colors that are solitarypermissible to custom in some

The use of colorants outside of this classification is banned. Furthermore, despite the ban on the addition ofcolorants to products like mineral waters, milk, flour and ingredient, different implementations are applied in national legislation. Colorants differ from one another by various properties like chemical structures, sources,and purpose of use. Because it is difficult to classify the colorants consistent with these properties, they're divided into twogroups supported their sources as natural and artificial.

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3.1 Natural Colorants

The use of natural colorants is understood so far back 2600 BC and written records are found in China. It's beenreported that food colorants were utilized in Europe during the Bronze Age. Natural food colorants, which still be used worldwide and known to possess significant benefits when consumed, are demanded by people for his or her long orshort-term effects also as for his or her reliability, functionality, biological potential and health effects. Consumers perceive natural colorants as safer than to synthetic colorants which are thought to be harmful. Many consumers associate good and natural looking food and drinks with top quality while they think the opposite wayaround when it involves faded and artificial shining products. Additionally, the assembly of colorants from knownsources like beetroot, grape, cabbage and paprika makes the buyer feel safe and makes it easier to familiarize and accept the merchandise. Natural colorants are less stable to heat, light or pH, and their production is insufficient tomeet industrial demand. They quickly fade when exposed to light and shows low resistance to acidity and hightemperature. Forinstance, Annatto turns to pink from yellow at low pH and chlorophyll turns to brown from green. This makes natural origin colorants costlier. Forinstance, natural red and yellow colorants may cost 100 timesmore than synthetic products with an equivalent effect.

Organic Natural Colours

Anatto: Annatto is one among the oldest known natural carotenoids used as food colorant. Tropical annatto may be a pigmentderived from the pericarps of Bixaorellana L. tree seeds [18]. Having yellow-orange food colorant property, annatto isused in smoked fish, various beverages, bakery products, and dairy industry.It's also been reported that annattois used especially in cheese, butter, margarine and snacks.

Anthocyanins: Anthocyanins are natural polyphenolic pigments group liable for various colors of the many fruitsand vegetables starting from red to blue. Typically, the foremost common sources of anthocyanins utilized in food industry aregrape, elderberry and blackcurrant. Anthocyanins also are found in red beets, black carrots then forth [17].

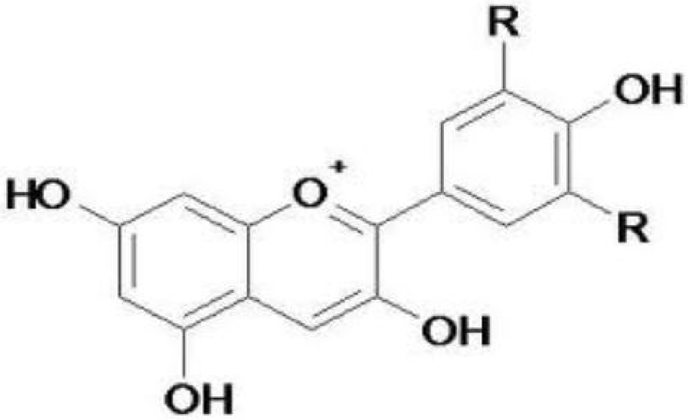

Fig. 1 Chemical structure of Anthocyanins

Anthocyanins aren't only vegetative as plant roots, flowers, leaves and plant matrices are. Algae/microalgae, fungi/yeast and aquatic animals also are used as staple to extract carotenoid pigments.

B-Apo-8'Carotenal and Carotenoic Acid Ethyl Ester: Existing inthe form of crystals or powder crystals and having a color of darkand red violet with a metallic lustre, they're utilized in theproduction of sentimental drinks, confectionary, coatings, soups, sweets and sauces. Black is that the only natural color that gives reminder black or gray. It is utilized in candies, ice-creams and frozen sorbet.

Caramel: Caramels constitute quite 80% of all food colorants and are classified consistent with their production methods. The distinctive taste, odor and therefore the amber color that begin when heated is named caramel. Although notobtained from plants or animals, the caramel produced by heating the sugars is employed in various food products. Carotenes: As they're added to foods with high carboxylic acid content, carotenoids are preferred in various foodproduction. The most colouring substance of carotenes, β-carotene, is yellow and red.

Chlorophyll: Chlorophyll is common substance in nature which may be a green pigment occurring as a results of vegetableand fruit plants photosynthesis. Chlorophyll is employed in bakery products, dairy products, candies, cereals, jams andjellies to offer green color. Chlorophyll is additionally used as a complementary when it's needed to dim off the yellowishcheese milk color [17].

Carmine (Natural Red 4): cochineal insect (Cochineal) may be a local insect in South America and Mexico. Carmine may be a compound that carminic acid createswith aluminum pigment.

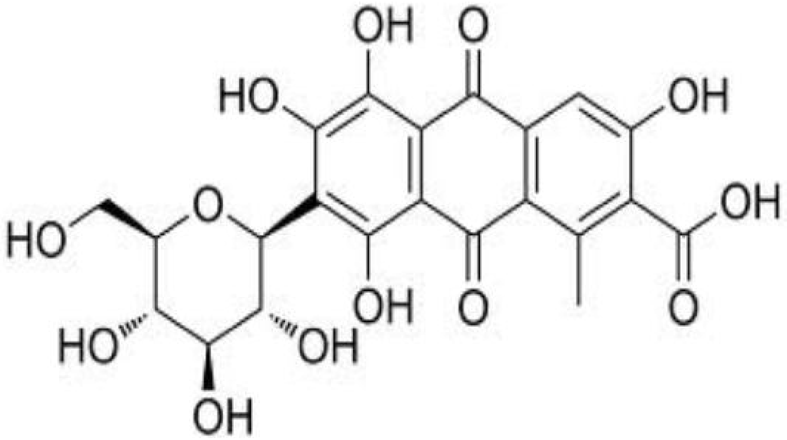

Fig. 2 Chemical structure of Carmine

Since it's an upscale substance as a color additive it's not economical to use in foodindustry. Carmine is employed to offer pink colour dragee coatings and protein food because the use of FD&C pigments isunfavourable for protein food.

Sepia officinalis L. (Female Cuttlefish): This pigment, called Sepiaxnthine, features a concentrated orange-red color. It’s used ascolorant and sweetener in pasta and sauce production. Usually,the ink of the cuttlefish is employed in black pasta production. Themost important colorant sources obtained from animals areNatural Sepia, Crimson (from Kermes Louse) and Tyrian purple[16].

Curcumin (Turmeric): Turmeric may be a plant that's cultivatedin many tropical countries, especially turmeric and India.

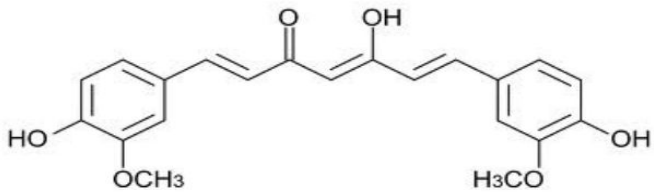

Fig. 3 Chemical structure of Curcumin

Curcumin is that the main coloring pigment of turmeric which is employed as a spice for thousands of years and is one among the most components in sauce [17]. Curcumin ismainly utilized in dairy products, beverages, cereals, mustard, food concentrates, pickles, sausages, confectionery, icecream and bakery products. Mixed with annatto, it's also added to the seasonal sauces, mayonnaise sauces and butter substance of red tomato, may be a carotenoid class colorant.This substance is red and viscose. Lutein, anothercolorant within the carotenoid class, is that the main colouring substance of xanthophylls and provides yellow colour.

Beetroot Red: The colours pigments exist within the red beet are red and yellow pigments. Red beet is employed within the production of frozen dessert, dairy products, jams and jellies and provides strawberry color confectioneries that aren’t exposed to heat.

Paprika Extract: The important pigments found in red pepper are a mix of capsanthin and capsorubin. Both arecarotenoids liable for the red color of the dye.Lycopene and Lutein: Lycopene, the most colouring substance of red tomato, may be a carotenoid class colorant.This substance is red and viscose. Lutein, anothercolorant within the carotenoid class, is that the main colouring substance of xanthophylls and provides yellow colour.

Riboflavin: It is utilized in manyfood products like sorbet, various drinks, sweets and frozen dessert. Riboflavin is preferred within the production of cerealbasedproducts, but its use is restricted thanks to its mild odor and naturally bitter taste.

Monascuspurpureus: Red pigments produced by the fungus named Monascuspurpureus are utilized in traditionalproducts in some countries thanks to their various properties. The utilization of those pigments has not yet been legally regulatedin the European Union,us,Brazil, the Philippines and Taiwan. This pigment, which is soluble in water,has been utilized in confectionery and red rice wine production in Japan for several years. Additionally, this pigment has cholesterol-lowering properties.

Inorganic Natural Colorants
Aluminium dust and silver for ash grey color, gold for real gold color, iron oxides for yellow, red, brown or blackcolors, and titanium oxide for white colour and carbonate[. These colorants are utilized in the assembly of confectionery coating, liqueur decoration, chocolate, calcium carbonate, gum and bread.

Synthetic Colorants
The substances which aren't found in nature thanks to chemical structures and obtained by chemical synthesis are known as synthetic colorants. The primary synthetic organic color obtained is that the purplish lilac color discovered by William Henry Perkin in 1856. It had been obtained from the organic pitch. Synthetic colorants have many advantages over natural colorants. Synthetic food colorants surpass natural colorants thanks to their high colouring ability, various colour tone, homogeneous colour distribution, brightness, stability, and simple application. With high water and oil dissolutionproperties, time period of the synthetic colorants are quite long. Chemical solubility matters when making a classification.

4. Conclusion
Today, factors like increase in food production variety, diversification of technological developments and changes inconsumer nutrition habits have increased the amount of processed foods. In many countries, the utilization of food additiveshas been compulsory to make sure the standard characteristics of processed foods and to increase time period. Especially, thecolouring additives utilized in color formation, which plays a crucial role in consumer preferences, are added to offer color to the food and to win the consumers. Colorants are utilized in many food industries, like the assembly of sentimental drinks, confectionery, bakery products, canned and vegetable products, dairy products and meat and fish products.When evaluated in terms of health aspects; the utilization of additives must be performed within the bounds and to satisfy acertain function within the legal framework.

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SOCIO-CULTURE ISSUES IN THE DRAMA WHERE THERE IS A WILL WRITTEN BY MAHESH DATTANI

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Abstract
Indian writes have one specific status at universal level, especially in the writing of English. Novel, Dramas, poetry and shorts stories which are written or translated into English by Indian writers. Original form of philosophical, religious, historical, and mythological Drama are always are afar part of Indian English Drama.

In the domain of Indian English drama, the plays of Mahesh Dattani emerged as 'fresh arrival' within the last decade of the twentieth century. His plays deal with existing and current issues. The difference between Indian English and other English writing is matter of theme and language. Most of the plays of Indian English writers are translated from regional language to English. Few writers of Indian English literature writes literature that is written in English. The words of Indian Writers are easy. To measure the depths of Indian Drama in English certain characteristic features are to be kept in mind. Firstly, the Indian Writings in English during Modern Age articulate the budding and the already present writers as well as the influence of Existentialism, Globalization, Surrealism, Dadaism, Magic Realism and the Post-Colonial issues. The current paper focuses a light on the important feature of the Drama Where There is Will by Mahesh Dattani.

Keywords: Dattani, Will, culture, society, socio-cultural issues, Indian Society etc.

Introduction

Mahesh Dattani is one of prominent writer of India who has discussed on various social-issues, cultural- issues, gender issues in his plays. In the domain of Indian English drama in the last decade of the twentieth century, the plays of Mahesh Dattani emerged as 'fresh arrival'. He mostly discusses contemporary issues in his writings. Dattani is known as the well-known Indian English write he started his career as a copywriter in an advertising firm. His topics are never being spoken about in society. Because those all are matters to avoid openly. Such topics are always debated in society. Most of his plays are exhibited on the stage in a very good manner. He wrote his first full-length play, Where There's a Will in 1986. He has been working as a full-time theatre professional since 1995. Even He has worked with his father in the family business. There are many characters in play 'where there is a will' i.e. Hasmukh Mehta , his wife Sonal Mehta, his son Ajit and his daughter-in-law priti , Kiran Jaweri (mistress of Hasmukh Mehta). As Mahesh Daatani is a Gujrati writer there founds impact of Gujrati culture in his writing. Hence, Where there is Will is a Gujrati play.

2.0 Writing Features of Mahesh Dattani:

Mahesh Dattani is one of the Indian a philosopher amongst the playwrights. Some of the major features of his writing are given in the image number 2.1:

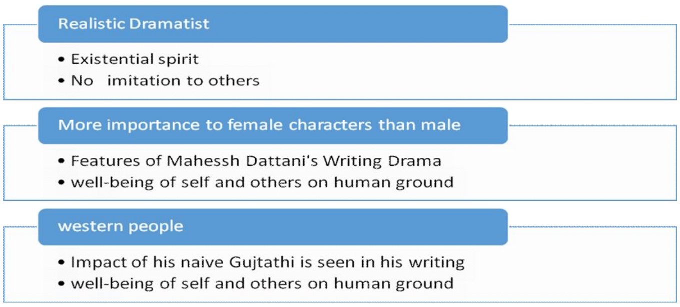

Image Number -01 Features of Mahesh Dattani's Writing Drama

As shown in the image number 1, the writing features of Mahesh Dattani as a playwright are as:

a. He never imitates anybody.

b. He always thinks for himself and thinks about the well-being of the humanity around him. The base of the humanity is Indian.

c. These problems are not the known to the western world because they are based on Indian culture.

d. Another important feature of his writing is that approach towards the problems are original. Dattani used drama as the means often engaging in existential spirit with the actual problems of life.

e. Dattani is a realistic dramatist.

f. In his dramas, male characters are not as important as women characters.

g. He is a Gujarathi. One finds Gujarathi characters in his plays especially all characters in Where There is a Will.

Plot of the 'Where There is a Will'

The plot of Where there is a will deals with the matter of middle class Gujrathi family. He himself belongs from Gujrat though born in Bangalore, we find the impact of Gujrathi in his writing including the names and characters of play. When the play opens, Ajit one of the important character of the play is talking to a friend on the phone. He is talking about his frustration that his father does not give him Rs.5 Lakhs, which he needs to modernize the factory. This shows the relation between a father and a son, as well as it shows the conflict between Hasmukh and his son Ajit. Father Hasmukh Mehta always keeps commenting on Ajit's irresponsible and crackpot schemes. As he tries to prove his son, the more he claims his right to prove his worth, his father always taunts him that as a good for nothing saying in the words as- "I am not trying to humiliate you. I'm trying to put some sense into you. Trying to fill up empty space." Here Ajit exposes in his talk with his friend that his father's selfish motives due to depravity in childhood. His replied to his father is always, "Anything I do is wrong for you! Just because you are a self-made, staff and had a deprived childhood…. Nothing I do will ever seem intelligent to you. You are prejudiced."

Blind Faith –Major Social Issue of Indian Culture Shown by Dattani

There are several blind faiths in Indian culture as the existence of Ghost. The same Dattani has shown in his play 'where there is a will' with the appearance of the Ghost of Mahesh Dattani. He started the play with the death of Hasmukh Mehta and he appears as a ghost. When ghost of Hasmukh Mehta appears, the family member the all are busy with own life. In the play 'where there is a will' mainly focuses on the social issue.

a. **Generation Gap and Conflict Between parents and children- major socio-culture issue in India/ Patriarchal Dominance:**

The discussion given above between a father and child of India kind explains the father is keeping nagging to his child, as their children don't know anything. They should follow the instruction given by their parents, no matter how old they are. This patriarchal dominance reveals in this play that Hasmukh keeps nagging Ajit calling him as a big zero. Moreover, he affirms that Ajit would ever remain so. With the father sleeping and Ajit for insulting him, the argument and counter argument between the due end up.

Moreover, the family dominating so-called husbandry and parental can be seen by In the play 'Where there is a will' Dattani also focus the comically scene of discussion of Sonal and Priti and Sonal's ironical comment on the meaning of 'Hasmukh,' Mr. Hasmukh is completely opposite to the name of his meaning. As Hasmukh which means 'a smiling face' But here they can see her husband never smiled, further, he always blaming her and her son for all his problem

b. The Status of Women in India Society:

As per Indian culture and discrimination of male and female, the Indian female are supposed to be busy for a whole day in the house-holding tasks. Mahesh Dattani in the play 'where there is a will' focuses on the same topic. He represented female characters in this play who are always busy for the household work and busy to prepare the dinner

e.g. Sonal and Priti are always busy in the preparation of the dinner for all family members. Though, watching these we feel, Indian husband and wife has a good relation but the incidents as Sonal makes orange flavored halva for Ajit and it irritates her husband because he is a diabetic patient shows that they have no deep familial relationship.

c. Magic Realism in India:
Scholarly statement given by scholar on internet about magic realism as, "For Indians, magic realism is an everyday affair. ... "Since the publication of the first part of Don Quijote in 1605, the novel has gone through a great evolution.[4]" The same has shown with the story of the 'where there is a will' which started with the death of Hasmukh Mehta and he appears as a ghost. All the family member are busy with own life. In play 'where there is a will' we can see there are many characters. Characters like Hasmukh Mehta, his wife Sonal Mehta, his son Ajit and his daughter-in-law Priti, Kiran Jaweri (mistress of Hasmukh Mehta).

India has huge history of magic, blind faith, ghost, witches in literature and beliefs of day-to-day life.

Mahesh Dattani here applied the theme of magic realism; Dattani has very deftly brought in the scene to establish the protagonist's patriarchal hegemony even after death in the words as, "I am dead. I can see my own body lying still on the bed, looking peaceful, but dead."

d. Fighting for Property and Wealth:
The play 'where there is a will' is a Gujrati play. In the play 'where there is a will' mainly concentrate in the social issue. Kiram, Husmukh's mistress arrives of at the ends with, who has come to stay in the house being named the executor of the will because they all are fighting with will. Here, Kiran begins her indispensability that she has come to assist them as per Hasmukh's will through a try to form the supreme control over his family via his money and will. Husmukh was the only who was committing the dirty tradition inherited by his father. Somewhere this hegemony had to stop. At the end, Ajit's revolutions against patriarchy got success to establish his final victory.

e. Joint Family Culture:
Dattani through the play 'where there is a will' explained the join-family system of Indian social family structure to prevalent it in several part of India through the light on the Gujrati family. There are several problem in the 21st century in our today life, which we can see, in the current joint family system. It also creates the trouble in the assessments of property and wealth due to extreme patriarchal control. This we can find at the end of the play with the example of Kiran's assessment of extreme patriarchal control in Hasmukh as a substitute for his inadequacy as a man. Finally it is resolved with many conflicts among the characters and bring them together to derive benefit from the Husmukh Will. This shows Dattani's success to explore some of the problem faced by patriarchal societies that need purging of the ghosts of the past like Ibsen. He ends this play with the scene of them all with joining hands being victims of the same male domination and ruthless patriarchy.

Conclusion
Thus, with the existence of past and present, Mahesh Dattani presents the play 'where there is a will' where the past has fashioned the present, the present helps the characters to re-read the past. As Mahesh Dattani represented the conflict and generation gap between father and child in Where there is Will, he represented the same in Dance like a Man. Only topic of dispute is changed. The play 'Where there is Will', he represented about the parents always thinking that their children could listen to them no matter how old they are. Children are always useless as far as maturity and understanding of life is concern. Thus, Mahesh Dattani's play deal with the realism of socio-cultural issues which are established in Indian society. He gave priority to the social flaws and hypocrisies are highlighted to bring in spotlight about the sad realities which are deeply rooted in Indian society, culture, beliefs and customs. We all are able to see and even know it is wrong yet we were blind towards them.

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AN OVERVIEW OF REVENGE TRAGEDIES

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Abstract
The roots of tragedy are found in the life of human beings. Tragedies came into picture throughout the world in the stories of all nations. As mentioned in the western drama tragedy first appeared in the literature of ancient Greek drama and after that in Roman drama. This literary genre moved into the sixteenth century and Elizabethan period later that was referred as the golden age of drama. In this period, we can witness very clearly that this literary genre is categorized into various kinds. . The article has studied the subject from a historical approach to study tragedy, tragedy writers and its various kinds in the Sixteenth and Seventeenth centuries. The paper has also presented the prominent features and characteristics of tragedies. The study of Spanish tragedy and its influences on revenge tragedies written by Shakespeare and other tragedy writers is also discussed in the paper. The article also included some of the most prominent dramatists and tragedy writers of these periods such as Thomas Kyd, William Shakespeare, John Marston, George Chapman, Tourneur and John Webster.

Keywords: Tragedy, Revenge Plays, Sixteenth and Seventeenth Centuries, Spanish Tragedy etc.

Introduction

The Literature is always changed according to the choice audience and period. There are several genres of literature out of which drama is very popular form in literature. In these types of literature Tragedy plays an important role. To Aristotle, 'Tragedy is the highest creation of literature.' Because in tragedy writer has to show the man worst than he is or best than he is. Hence in this current work first important thing is to know what is mean by tragedy and the background of the tragedy.

Background and Definition of Tragedy

A revenge play is also known as a revenge tragedy. This kind of tragedy "is brought about by the pursuit and accomplishment of revenge. It is blood asking for blood. The revenge tragedy was very popular during the Elizabethan and Jacobean periods, and it owed its popularity largely to the influence of Seneca the ancient Roman dramatist[1]" (www.Scribd.com)

On the Contrary, Abrams (1999) while defining tragedy states that "Senecan tragedy was written to be recited rather than acted; but to the English playwrights, who thought that these tragedies had been intended for the stage, they provided the model for an organized five-act play with a complex plot and elaborately formal style of dialogue[2]" (p.323). He further adds that: Senecan drama in the Elizabethan Age had two main lines of development. One of these consisted of academic tragedies written in close imitation of the Senecan model, including the use of a chorus, and usually constructed according to the rules of the Three Unities, which had been elaborated by Italian critics of the sixteenth century; the earlier English example was Thomas Sackville and Thomas Nortons Gorboduc (1562).

Abrams (1999) further in continuation explains that the other and much more important development was written for the popular stage, and is referred as the revenge tragedy, or (in its most sensational form) the tragedy of blood[3]. This type of play is adopted from Seneca's favorite materials of murder, revenge, ghosts, mutilation and carnage, but while Seneca had put such matters in lower to long reports of offstage actions by messengers, the Elizabethan writers usually represented them onstage for the satisfaction of the appetite of the prevailing audience for violence and horror[4] (p.323). It may be that Thomas Kyd's Spanish Tragedy (1586) was the first revenge play in its kind and as Abrams remarks, "established this popular form, its subject is a murder and the quest for vengeance, and it includes a ghost, insanity, suicide, a play-within-a-play, sensational incidents, and a gruesomely bloody ending[5]" (p.323) Kyd's revenge tragedy, was followed by a spurt of revenge plays, and "it was during James's reign that many of the most famous tragedies and comedies in English were written and first performed[6]" (Widdowson, 2004, p.9). Abrams (1999) enlists these popular dramatists and writes: "Christopher Marlowe's The Jew of Malta (1592) and Shakespeare's Titus Andronicus (1590) are in this mode; and from this lively but unlikely prototype came one of the greatest of tragedies, Hamlet, as

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Vol.40-Issue.89-March, 2020

well as John Webster's fine horror plays of 1612-13 The Duchess of Malfi and The White Devil" (p. 323). 7.John Marston (1575-1634) with his revenge tragedies of Antonio's Revenge and Antonio and Mellida. George Chapman with his powerful revenge play The Revenge of Bussy D'Ambois were some of the dramatists who wrote revenge tragedies. The Tourneur, whose masterpieces of revenge tragedies are The revenger's Tragedy (1607) and The Atheist's Tragedy (1611)is also worth mentioning.

Major Characteristics of Tragedies

The main components and characteristics of revenge tragedies are as follows:

a) There are few murders which are comedies.

b) The appearance of murdered person's ghost appears in few close relative or friend of his.

c) This appeared ghost enjoins him to take the revenge of the murdered.

d) In the revenge tragedy the revenge is imagined as a sacred duty.

e) In the revenge tragedy, it is not as a kind of wild justice.

f) In tragedy, the avenger is moved by a sense of sacred duty.

g) In tragedy, a sense of sacred duty is not out of any passion.

h) It shows greed or hatred for some personal injury in tragedy.

i) We can see, there is a piling up of crude, physical horror upon horror's head.

j) In revenge tragedy, there is much that is sensational and melodramatic.

k) These terrors are intensified in revenge tragedy by the repeated appearance of the ghost.

l) In revenge tragedy, there are a number of deaths and the stage is left littered with dead bodies, at the end.

m) In revenge tragedy, there is plentiful use of the imagery of violence and terror.

n) In revenge tragedy, the prominent role is assigned to some rascally servant known as the malcontent, a Machiavellian-villain much given to reflection and satiric comments.

o) In revenge tragedy, Sympathy is aroused for the avenger."

Discussion

Thomas Kyd's Spanish Tragedy

The credit for making the revenge tragedy famous in England undoubtedly goes to Thomas Kyd. He was one of the university wits and belongs to the Elizabethan period. He had interest in the Greek dramatist Seneca's tragedies to the great extent as they were his favorite reading. While reading his plays, one can witness the re-appearance of the main characteristics of the Senecan tragedy in his masterpiece, The Spanish Tragedy. The great fame of this play is accounted for by the fact that the people were in need of romantic melodrama and Kyd offered them what they wished for. Spanish Tragedy is the first which was really effective tragedy in the Senecan style. The atmosphere is one of fear and gloom and the fear is aroused by the piling up of crime, which is most often monstrous crime. There is also a large number of murder. A young prince is killed treachery when he is to marry his beloved. His father pretended madness and plans revenge. He succeeds too much extent and finally everyone including himself is killed. The stage is scattered with dead bodies. The ghost in the Senecan style appears at intervals in the whole tragedy asks for revenge. Besides we see long, declamatory speeches in the Senecan manner. In spite of this classical influence, the tragedy does not actually imitate the norms and classical rules of dramatic writing. Unity of time and place is not followed in the play unity of action and unity of motif is seen, as it all centers round revenge. One find less action on the stage, whereas there is no such action in the Senecan tragedy.

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Vol.40-Issue.89-March, 2020

Shakespeare's Famous Tragedy Hamlet
The greatest of his contemporaries William Shakespeare, wrote Hamlet is essentially as a revenge tragedy. The genius of the dramatist is responsible to raise this play at the height of Tragedy. Hamlet's uncle murders his father; the ghost of the murdered king appears in the dream of his son hamlet and instigates him to take revenge for the misdeeds to him. The revenge "is enjoined upon him as a sacred duty" (Simon, 1984, p. 12).9. Hamlet makes his mind firm to perform this duty, but somehow he hesitates and delays doing so. As a result, some murders finally happen and all the dead bodies are seen lying on the stage. Revenge motif forms the base of this play. Crude, melodramatic and sensational is in abundant in the play. However the different soliloquies of the prince offer us a sign into his exploited soul. We also experience that hamlet being essentially a noble soul and his masterly inaction derives from his inherent nobility. Thus a crude melodrama transforms into a high tragedy, a play in which tragedy is a matter of character rather than a merely an external horrors.

Marston's Antonio's Revenge and Antonio and Mellida
John Marston is the another prominent writer of Revenge Tragedy. Antonio's Revenge and Antonio and Mellida are his popular tragedies being the best. These two tragedies are the direct descendants of the The Spanish Tragedy. He has followed the Senecan Tradition while writing these tragedies. His tragedies are characterized by coarseness, brutality and violence. They also unveil the cynicism and pessimism of the dramatist himself. Originality is found missing and they are imitative frankly. One can find coarseness to great extent in the playwright himself than in other writers.

George Chapman the Revenge of Bussy D'Ambois
George Chapman is also recognized as an imminent writer of revenge tragedy. The Revenge of Bussy D'Ambois written by Chapman is a good and powerful play. He had written the tragedy of Bussy D'Ambois in the year 1604. This play revolves around a brilliant swordsman at the court of Henry the Third of France, who was trapped by Count Monsturry for an evil plan with the connivance of the king's brother, the Duke of Guise. Chapman followed it up about after six years with The Revenge of Bussy D'Ambois in which he left history completely and even invented a brother of Bussyy's, whom he gave name as Clermont, to avenge him. On this figure Chapman focused all his powers. Clermont expressly called in the play 'This Senecal man', which is the ideal Stoic. A grave moral teacher, studying perfection in himself and others- this was the man on whom Chapman allotted the duty of taking swift, decisive, and harsh action. Even without the clue that the author offers, we can notice a certain kinship with Shakespeare's Brutus, and the relationship to Hamlet is closer still. The Revenge of Bussy D'Ambois, is the only play by Chapman which has given clearly depicted debt to Shakespeare. At the beginning of the next century, there were two dramatists who gave a new life and vitality into revenge tragedy. Cyril Tourneur and John Webster are these two dramatists.

The Revenger's Tragedy and the Atheist's Tragedy
The Revenger's Tragedy and The Atheist's Tragedy are considered as the masterpiece of Tourner. These two tragedies are set in Italy, in a coarse and cruel world of crime and vice, without an escape and which knows no pity. Revenge and punishment being the theme the action moves with swiftness, clarity and intensity. The Spanish tragedy's tradition is followed in the play, and in their flashes of dramatic power, the greatest of the later revenge plays. Simpson writes that "the savagery of the play is its most marked characteristic, a long-deferred vengeance carried through to the accompaniment of murder, rape and incest. As always in the world of decadence, there is a striving after originality. And in one point the author has succeeded better than one could hope; he has drawn with an unfaltering hand the temptation and the triumph of one pure woman[10]" (qtd. in Carpson, 1996, p.45).

John Webster's the Duchess of Malfi
The Duchess of Malfi written by Webster has many features of a revenge tragedy. Free exploitation of crude, physical horrors, such as the dance of the mad men, the depiction of a dead man's hand to the Duchess, the showing to her of the wax figures of her husband and children to pretend as they were dead, the appearance of the tomb-maker and the executioner with all the apparatus of death are found in the play. There are many murders which include murders by strangling and poisoning. The playwright has used the imagery of violence, decay and corruption abundantly with intention "to intensify the

atmosphere of horror" (www.Brain.net). 11.A Machiavellian Malcontent is also found in the play. The character of Bosola , a rascal involved in satiric reflections of life. The Duchess of Malfi , after studying minutely one can experience that the play is different in a many ways from the traditional revenge play. First the revenge motif is lacks strength in the play. It remains unclear why revenge is taken on the Duchess. She married below her rank and status was her only fault and in this way as the two brothers perceive, she has brought disgrace to her family. She has definitely not committed any serious crime and the horrible exploitations to which she is subjected are not justified, and far in excess of her guilt. That fact of the weak the revenge motif is clearly pointed out by the fact that for more than two years Ferdinand and the Cardinal do nothing in order to punish the Duchess. Ferdinand is told of her marriage as soon as her first baby is born, and she has two other children before Ferdinand acts to have his revenge. If there is a revenge motif, it appears late in the play when Bosala avenges himself on the cardinal and Ferdinand for ingratitude showed to him, and also because he has been touched by the murder of the Duchess and decides to avenge it (www.Scribd.com) 12.. The issue of revenge in this drama is not a pious duty enjoyed by the supernatural as it was in the Senecan tragedy, but it can be "A satisfaction of personal passions". Ferdinand's motif perhaps be greed for the property of the Duchess or sexual jealousy because of his incestuous passion for her, or perhaps it merely result from the morbid pleasure which the brothers take in inflicting pain. In the case of Bosola, the motif is surely the ingratitude of the two brothers. It is a contentment of personal grudge. For sure, Webster has freely used crude physical terrors, but these terrors are made an internal part of the tragedy. The sensation and the melodrama are seen acting on the soul of the Duchess, and thus her inner suffering, in grandeur, majesty and nobility of her soul, are fully unveiled. In this way the melodrama is raised to the level of pure tragedy. Thus the horrible is subordinated to the total artistic effect the artist desires to create. The terror in the play does not remain something external as is the case with other writers of the revenge play (www.Scribd.com).

Another contribution of Webster to the revenge tragedy is intensity of moral vision. Revenge is made to look ugly and repulsive. Finally in the drama our sympathies are not either with the avenger or avengers like in the conventional revenge tragedy, but instead with the victims of revenge. We have sympathy with the Duchess, we are aware of her nobility, dignity and innocence, and our sense of justice is contented when the avengers ends. The death of the Cardinal and Ferdinand gratifies our moral sense, and revenge is felt to be something extremely unpleasant and unethical. Webster further changes the revenge play with addition of poetry to it. He was gifted with a poet's imaginative creativity and the poetry of his play has been praised by on critic after another. Schelling says that "the power of Webster, at his best is the revealing power of love, the poetry of sadness, the poetry of pathos, the poetry of ruin, and these poetic touches take off the edge of the various gruesome murders' (qtd in Philips, 1998.p.67). In Act IV of the play, Webster's poetry appears more effective due to its wistful, tender charm, wrung out of the very heart of tragedy. Webster's splendid creative vision and his poetic insight reduce the gloom and tedium of the play.

Conclusion

Tragedies and revenge tragedies arise from the life of human beings throughout the world. The first revenge tragedies like The Spanish Tragedy during the Elizabethan period are historically significant. The reason can be explained that, such a play for example, foreshadows Shakespeare's Hamlet, in detail and in spirit. In this drama we also gain for the first time, the unsure type of hero. It is tragic feeling of being sad is the gloom of a Shakespearean tragedy. However, Kyd didn't had that vision and poetry which Shakespeare alone could supply. The Spanish Tragedy is also significant as it gave rise to the prevailing fashion of the revenge tragedy, a kind of tragedy which gained lot of popularity during the Elizabethan era. The revenge motif was exploited again and again by Elizabethan and Jacobean playwrights, and all its possibilities were soon ended. The search for newness resulted in ever increasing gullibility and absurdities, and the revenge play ended naturally. With moving the tragedy from the Elizabethan period towards the Jacobean period and the next century, the revenge tragedy stoop lower into crude melodrama and there was much horror upon horror's head. Murder and bloodshed were introduced too great extent to provide thrills and sensations to the degenerate tastes of the audiences. Dramatists still went in to exploit the revenge motif, but it soon stopped to get the central place, and was pushed to the background.

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INDIAN POLITICS AND PSYCHOLOGY

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Abstract

India is known for its democratic system in political field. Indian constitution is the world's bulkiest constitutions in which three basic terms are define, Liberty, Equality and brotherhood. The Indian constitution has drafted by the Constitution Assembly. On 9th December, 1946 the first sitting was held by the Constituent Assembly. As the part of Sovereign Constitute Assembly for the domain of India, this Constitution was resembled on 14th August, 1947. For India, the constitution is the supreme law which lays down as the framework which defines the basic principles of politics, establishment of the structure, procedures to follow the structure of defined policies of government, the duties and responsibilities of each Indian citizens, government sectors to spells out the fundamental rights, directive principles. Passed The Constituent Assembly had passed it on 26th November, 1949 and it came into force on 26 January 1950. Accordingly, 26th January was chosen to celebrate the declaration of independence. After the independence of India, there are lots of changes in political field which are affecting to the psychology of Indians. The current papers deal with the psychological aspects of Indian politics.

Keywords: Politics, psychology, independence, government, constitution etc.

Introduction

Around 150 years, India was ruled by British Government. Indian fought for independence of Nation but before going back from Bharat, they had created the two parts of Bharat as India and Pakistan. This created a troubled to India since independence to till date. The conflict of Hinduism and Islamic religion created a major issue in Indian Society. The psychological disturbance in Indian is arisen due to this partition. Apart from it, there are many aspects which are affecting to the Indian psychology. As current work deal with the psychology of India politics, it is first important to know two major concepts connected with this paper i.e. Politics and Psychology.

Origin of Politics

The word Politics is derived from the Greek **'politiká,'** which means the 'affairs of the cities'. This means politics is the set of activities which are associated with making decisions. These decisions are applied to groups of members to achieve and exercise the positions of governance, organized controlled over a human community. Thus, we can say that the word Politics is a multifaceted word.

Definition of Politics

Machiavelli defined the term politics as, "Politics is an art of coming to power and retaining the power".

The Great philosopher, Aristotle who is known as 'The father of Political Science', defined the term politics as, "Politics is a practical science and considered as master of all sciences."

Thus, politics is the term which can be called as a science as well as Arts. It is the term connected with understanding of politics and several sectors of politics such as government, state, sovereignty, legitimacy, power, influence, authority, democracy, power, political participation and political system etc.

Psychology: The word psychology is the combination of two words i.e. psyche and logas. These two words are derived from the Greek words i.e. psyche means soul and logas which means a rational course or a study. This means the thoughts with conscious Mind is the part of psychology. The definitions of psychology by few scholars are given below:

William MacDougall was the first man who defined the term psychology as "Psychology is a science which aims to give us better understanding and control of the behaviour of the organism as whole". (1949, P38).

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Vol.40-Issue.89-March, 2020

In a nutshell, "Psychology is a study of behaviour of all living organisms, including their subconscious and unconscious state of mind."

Thus, Psychology means the study of soul to few philosophers, while it is study on mind for few and some said that it is the study of conscious mind. All together we can say that the study of human mind, human behaviour affected with his/her inner thoughts can be called as the study of psychology.

Connection between Politics and Psychology: The term political psychology is connected with many disciplinary so it is connected with all subjects in academics. Further, to study the politics, to study politicians and their political behaviour the part of political psychology. The study of political foundation and to study the outcomes of political cognitive and social explanations is the part of political psychology.

The voter selects politicians through election. The human behaviour which can be worked in high intensity is the part of election. The activities of various voters and candidates who want to become politicians are analysed and according to their activities and the range of activities which come under the politics is the study psychologists.

The following picture shows the Structure of India Central Government :

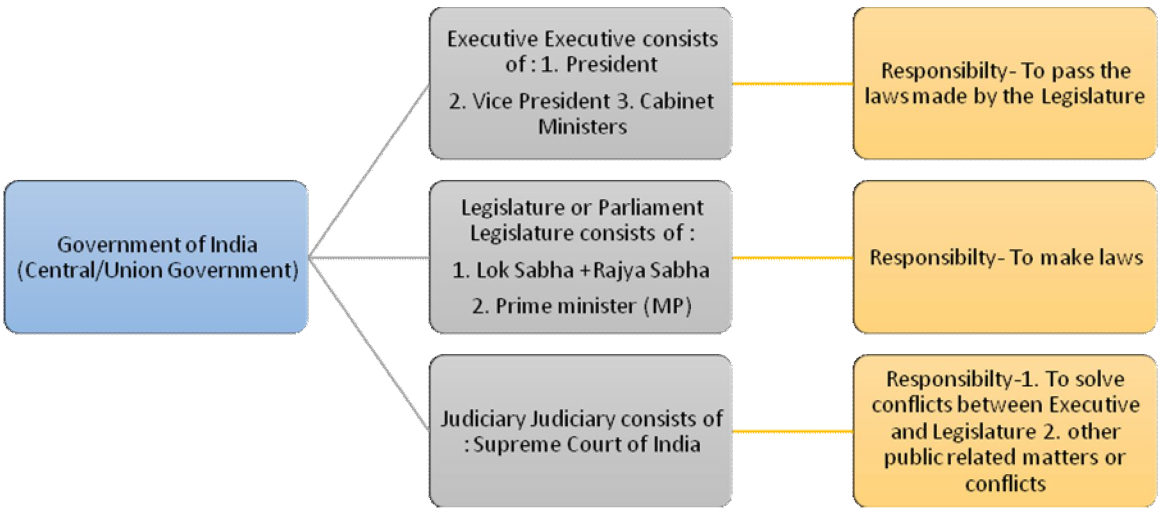

Image Number One (INDIAN STRUCTURE: CENRAL GOVERNMENT)

- As given in the above, the structure of Indian Central Government the structure is divided into three parts i.e.
- a) Executive consists of: 1. President, 2. Vice President 3. Cabinet Ministers.
- b) Legislature or Parliament Legislature consists of: 1. Lok Sabha +Rajya Sabha and 2. Prime minister (MP) and
- c) Judiciary Consists of: Supreme Court of India.
- Responsibility of above three section of Indian Givernment:
- A) First Part: Executive is the major legislative authority of Indian government whose main responsibility is the pass the laws made by Legislature.
- B) The Parliament has to define laws through Loksabha, Rajy Sabha and Prime Minister
- C) The Supreme Court or Judiciary of Indian central government has resolved the conflict which arises between Executive and legislature. Even they have to solve the public related conflicts.

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Indian government is basically run on the decentralization method. the above structure was of Central Government while The following picture shows the Structure of India State Government :

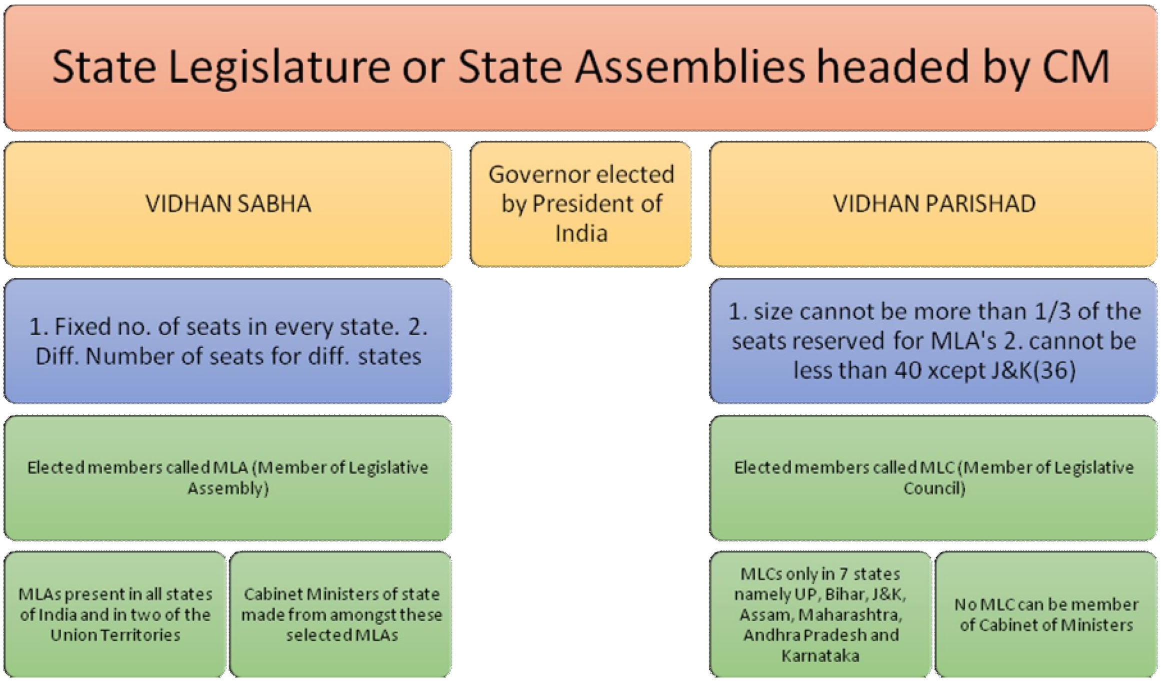

Image Number Two (INDIAN STRUCTURE : STATE GOVERNMENT)

- As given in the above image number two, the state has three main part of State Government as Vidhan Sabha , Governor and Vidhan Parishad. There is difference between Vidhan Sabha and Vidhan Parishad. There are fixed seats to evary state in Vidhan Sabha while there may be difference and Vidhan Parishad Statewise. The elected candidates of Vidhan Sabha are called MLA (Member of Legislative Assembly) and elected members of Vidhan Parishad are called as MLA (Member of Legislative Council).
- MLAs Vidhan Sabha present in all states of India and in two of the Union Territories while MLCs of Vidhan Parishad only in 7 states namely UP, Bihar, J&K, Assam, Maharashtra, Andhra Pradesh and Karnataka
- Vidhan Sabha Cabinet Ministers of state made from amongst these selected MLAs of Vidhan Parishad No MLC can be member of Cabinet of Ministers.
- These all tasks are related to human only. The work for human for human administration and human welfare. It cannot be run without understanding the psychology.
- It is very hard when there is the matter of defining new laws, changing the laws in India as there are multi cultured, multi caste and multi-state citizens are living.
- The implementations of laws are tougher than defining, as the current situation of Covid-19. The government is trying their best to control across the Nation with several policies, but due to many parties and even due to coalition there are many conflicts we found in all levels of the Nation.
- If the ruling government tries to implement any opposition party starts to create trouble to government.

Conclusion

There were several issues raised on castes, political parties, earning of daily wages citizens, the migration from one place to another place, one state to another state, the health caring issues etc. raised on very high level in India and due to different parties ruling at centre and state level of India. Yet, Indian Constitution has so many clauses which helps in all critical condition helps to control the crises of Indian community and Indian society. The only need is to understand the psychology of mob and

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Vol.40-Issue.89-March, 2020

accordingly convey them. We can't keep away politics from psychology and psychology from politics. Further, we can say, these two are the two sides of one coin.

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PESTICIDES AND ITS INFLUENCES

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Abstract
Pesticides are often considered a fast, easy, and cheap solution for controlling weeds and bug pests in urban landscapes. However, pesticide use comes at a big cost. Pesticides have contaminated almost every a part of our surroundings. Pesticide residues are found in soil and air, and in surface and spring water across the countries, and concrete pesticide uses contribute to the matter. Pesticide contamination poses significant risks to the environment and non-target organisms starting from beneficial soil microorganisms, to insects, plants, fish, and birds. In fact, weed killers are often especially problematic because they're utilized in relatively large volumes. The simplest thanks to reduce pesticide contamination (and the harm it causes) in our surroundings is for all folks to try to our part to use safer, non-chemical pest control (including weed control) methods. Because of the extensive benefits which man accrues from pesticides, these chemicals provide the simplest opportunity to those that juggle with the risk-benefit equations. What's required is to weigh all the risks against the advantages to make sure a maximum margin of safety. The entire cost-benefit picture from pesticide use differs appreciably between developed and developing countries. The sole objective of this paper is to study the influence of pesticides at various domains.

Keywords: Pesticides, influence, benefits, chemical, insecticides, Agriculture

1.0 Introduction

The chemical pesticides are abundantly used in agriculture nowadays. Pesticide is the phenomenal term which compromises various compounds like:

1. Insecticides,
2. Fungicides,
3. Herbicides,
4. Rodenticides,
5. Molluscicides,
6. Nematicides,
7. Plant Growth Regulators

Organochlorine is an insecticides which is widely used for preventing the crops from various diseases. 1960 afterwards, this insecticides have been banned by various developed countries. The synthetic insecticides like organophosphate, carbamates and pyrethroids have been introduced to the market in 1960, 1970 and 1980 respectively. The major influential in agriculture like of herbicides and fungicides have been introduced in 1970 to 1980 and the introduction of herbicides and fungicides in the 1970s–1980s contributed greatly to pest control and agricultural output. Ideally a pesticide must be lethal to the targeted pests, but to not non-target species, including man. Unfortunately, this is often not the case, therefore the controversy of use and abuse of pesticides has surfaced. The rampant use of those chemicals, under the adage, "if little is sweet, tons more are going to be better" has played havoc with human and other life forms.

2.0 Production and Usage of Pesticides in India

In 1952, the first plant, at Calcutta, India have been established which is recognised to be second largest plant in Asia and 24th in globe (Mathur, 1999). There has been a gentle growth within the production of technical grade pesticides in India, from 5,000 metric tons in 1958 to 102,240 metric tons in 1998. In 1996–97 the demand for pesticides in terms useful was estimated to be around Rs. 22 billion (USD 0.5 billion), which is about 2% of the entire world market.

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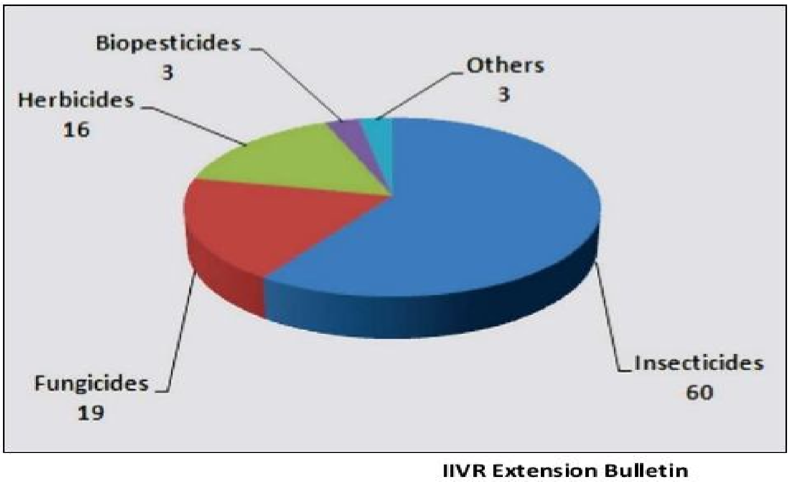

Figure 1 Consumption of Pesticides (Source: Internet)

The pattern of pesticide usage in India is different from that for the planet generally. As are often seen in Figure 1, in India 60% of the pesticide used is insecticide, as against 44% globally. The utilization of herbicides and fungicides is correspondingly less heavy. The most use of pesticides in India is for cotton crops (45%), followed by paddy and wheat.

3.0 Benefits of Pesticides

The primary benefits are the results of the pesticides' effects – the direct gains expected from their use. For instance the effect of killing caterpillars feeding on the crop brings the first advantage of higher yields and better quality of cabbage. The three main effects end in 26 primary benefits starting from protection of recreational turf to saved human lives. The secondary benefits are the less immediate or less obvious benefits that result from the first benefits. They'll be subtle, less intuitively obvious, or of long run. It follows that for secondary benefits it's therefore harder to determine cause and effect, but nevertheless they will be powerful justifications for pesticide use. For instance the upper cabbage yield might bring additional revenue that would be put towards children's education or medical aid, resulting in a healthier, better educated population. There are various secondary benefits identified, starting from fitter people to conserved biodiversity.

Improving Productivity

Due to the utilization of the pesticides, agriculture sector have been significantly benefitted. The production of the grains have been raised remarkably fourfold times after independence. This result has been achieved by the utilization of high-yield sorts of seeds, advanced irrigation technologies and agricultural chemicals (Employment Information: Indian Labour Statistics, 1994).

Protection of Crop Losses/Yield Reduction

In medium land, rice even under puddle conditions during the critical period warranted an efficient and economic weed control practice to stop reduction in rice yield thanks to weeds that ranged from 28 to 48%, supported comparisons that included control (weedy) plots (Behera and Singh, 1999). Weeds reduce yield of land crops (Behera and Singh, 1999) by 37–79%. Severe infestation of weeds, particularly within the early stage of crop establishment, ultimately accounts for a yield reduction of 40%. Herbicides provided both an economic and labour benefit.

Vector Disease Control

Vector-borne diseases are most effectively tackled by killing the vectors. Insecticides are often the sole practical thanks to control the insects that spread deadly diseases like malaria, leading to an estimated 5000 deaths every day (Ross, 2005). In 2004, Bhatia wrote that malaria is one among the leading causes of morbidity and mortality within the developing world and a serious public ill health in India. Disease control strategies are crucially important also for livestock.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Quality of Food

In countries of the primary world, it's been observed that a diet containing fresh fruit and vegetables far outweigh potential risks from eating very low residues of pesticides in crops (Brown, 2004). Increasing evidence (Dietary Guidelines, 2005) shows that eating fruit and vegetables regularly reduces the danger of the many cancers, high vital sign, heart condition, diabetes, stroke, and other chronic diseases.

Other areas – Transport, Sport Complex, Building

Pesticides are significantly use in the transport sector, particularly herbicides. Herbicides and insecticides are wont to maintain the turf on sports pitches, cricket grounds and golf courses.

4.0 Hazards of Pesticides

Direct Impact on Humans

Thought pesticides have raised the production of agricultural product, there have a serious measures debited on the human and environmental health. there's now overwhelming evidence that a number of these chemicals do pose a possible risk to humans and other life forms and unwanted side effects to the environment (Forget, 1993; Igbedioh, 1991; Jeyaratnam, 1981. The world-wide deaths and chronic diseases thanks to poisoning number about 1 million per annum (Environews Forum, 1999).

The US National Academy of Sciences stated that the DDT metabolite DDE causes eggshell thinning which the American eagle population within declined primarily due to exposure to DDT and its metabolites (Liroff, 2000).

Certain ecological chemicals, comprising pesticides called as endocrine disruptors, are recognised to provoke their adversative effects by imitating or irritating hormones within the physique and it's been hypothesised that their long-term, low-dose exposure is increasingly linked to human health effects like immune suppression, hormone disruption, diminished intelligence, reproductive abnormalities and cancer (Brouwer et al., 1999; Crisp et al., 1998; Hurley et al., 1998)

Impact through Food Commodities

In India the primary report of poisoning thanks to pesticides was from Kerala in 1958, where over 100 people died after consuming flour contaminated with parathion (Karunakaran, 1958). This prompted the Special Committee on Harmful Effects of Pesticides constituted by the ICAR to focus attention on the matter (Report of the Special Committee of ICAR, 1972). During a multi-centric study to assess the pesticide residues in selected food commodities collected from different states of the country (Surveillance of Food Contaminants in India, 1993), around 80-82% residue of DDT have been found of bovine milk cumulated from 12 states of which 37% samples had DDT above specified tolerance. The very best level of DDT residues found was 2.2 mg/kg.

Impact on Environment

Pesticides have highly affected each and every regions. Additionally to killing insects or weeds, pesticides are often toxic to a number of other organisms including birds, fish, beneficial insects, and non-target plants. Insecticides are generally the foremost acutely toxic class of pesticides, but herbicides also can pose risks to non-target organisms.

Surface Water Contamination

Contamination of water by pesticides is widespread. The results of a comprehensive set of studies done by the U.S. Geological Survey (USGS) on major river basins across the country within the early to mid-90s yielded startling results. Quite 90 percent of water and fish samples from all streams contained one, or more often, several pesticides (Kole et al; 2001)

Effect on soil Fertility (Beneficial Soil Microorganisms)

Heavy treatment of soil with pesticides can cause populations of beneficial soil microorganisms to say no. Overuse of chemical fertilizers and pesticides have effects on the soil organisms that are almost like human overuse of antibiotics. Indiscriminate use of chemicals might work for a couple of years, but after a while, there aren't enough beneficial soil organisms to carry onto the nutrients" (Savonen, 1997). For instance, plants depend upon a spread of soil microorganisms to rework atmospheric nitrogen into nitrates, which plants can use.

5.0 Conclusion

The exercise of analysing the range and nature of advantages arising from pesticide use has been a mix of delving, dreaming and distillation. There are blind alleys, but also positive surprises. The overall picture is as we suspected: there's publicity, ideological kudos and scientific opportunity related to 'knocking' pesticides, while praising them brings accusations of vested interests. This is often reflected within the imbalance within the number of published scientific papers, reports, newspaper articles and websites against and for pesticides. The colour coding for sorts of benefit, economic, social or environmental, reveals the very fact that at community level, most of the advantages are social, with some compelling economic benefits. At national level, the advantages are principally economic, with some social benefits and one or two problems with environmental benefits. It's only at global level that the environmental benefits really inherit play.

There should be provision to be made for opting the promotional activities about health awareness for the sake of the effect of pesticides. To sum up, supported our limited knowledge of direct and/or inferential information, the domain of pesticides illustrates a particular ambiguity in situations during which people are undergoing life-long exposure.

Thus, to avoid the effects of pesticides on human health, educational packages to be developed and disseminate through the people.

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EXPLORATORY STUDIES OF NEWSPAPER IN SOCIAL MEDIA ERA

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ABSTRACT
This paper inspects how sub-social respondents vary in their observations and answers to poll things tapping their cultural assimilation and ethnic character. A related goal is to look at how bilingual respondents presented to an instrument in the source language see it contrasted with subjects presented to the instrument in their local language. Earlier examinations find that respondents can answer diversely as indicated by the language of the poll. Around 170 questionnaire surveys are gathered from Mumbai dwelling in Western Mumbai. Discoveries demonstrate the nearness of a few non-invariant factor loadings and covariances, showing that alert ought to be practiced when completing ethnic character concentrates with respondents who are given the decision of the language of the poll. Research on how contrasts between dialects influence customer data preparing and insights can reveal insight into another type of reaction style in culturally diverse research.

Keyword: Bilingual, Questionnaire

INTRODUCTION
Would you be able to detect the distinction between new media and customary media? The conventional media comprises of prints and communicates, for example, papers, magazines, radio telecom books and CDs and so on. Then again, web-based life, which develops with innovation, incorporates the utilization of Twitter, informal communities just as web journals - utilizing web as a stage. Not just has cutting edge innovation encouraged web utilization, it has additionally elevated new media to the degree that dominant part currently accept new media will one day succeed customary media. New media has the establishments of customary media in filling a similar need, comparative systems in get-together data and having similar crowds; in any case, it might succeed conventional media because of the distinctions in the right to speak freely, combined with long range informal communication administrations qualified for clients and the hurried speed broadcasting. Despite the fact that ads represent 70% of the income created by papers, there has been a declined in the printing of papers because of absence of ads. **(G. E. Burp and M. A. Burp, 2004, p. 392)** actually innovation has made web a superior option for showcasing and promoting. In this manner, organizations will in general use web stages over print or communicate media to accomplish marking. In light of site Clickz, every single one of us gets a gauge of 5000 business messages day by day. **(Massey, 2010)** However, it is difficult to see 1000 ads from the quantity of papers or magazines that we read, comprehensive of notices on TVs and radios. Subsequently, new media may surpass old media with the utilization of innovation, as can be seen from the simplicity of publicizing.

It is difficult to acknowledge at the first look how our data circle and enlightening conduct has changed during a decade ago. Today we are frequently thinking about how was it conceivable to get information having no entrance to boundless assets of Internet, or how might we construct our crucial standards inclining just on politically drew in Soviet Mass Medias.

The pivotal changes in data innovations and expanding data stream has completely changed requests and objectives we were utilized in any event 10 years back. Today the expression "information" appears to change its conventional significance from "what we keep in our brain" to "how rapidly would we be able to discover and dissect required data". Medias have changed quickly during a decade ago – customary Print Medias, TV or Radio **(or Mass Medias)** are losing their situation in rivalry with self-

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created web based life that requires less demonstrable skill, isn't restricted with any sort of guidelines, has no visitors or characterized target crowd.

In logical language it sounds as change of Shannon-Weaver correspondence model. In conventional Mass Medias to contact the mass crowd columnist needs to pass far: his/her work will be altered, amended, printed/introduced, etc. Right now most significant is the assessment of the manager. In current Medias writers generally need to confront their crowd legitimately – when they are live on air, or use multi-media stages, similarly as occurs in interceded relational correspondence process – and it is extremely testing without a doubt. There is no boss editorial manager to fence writer, the crowd surveys his work straightforwardly, in this manner the job of Medium, Encoder goes to another level.

New advancements pushed writers to a circumstance when they need to understand the reality, that customary Mass Medias and Social Medias are totally various circles and they should create aptitudes to act inside them two. The circumstances they need to bargain in their expert exercises isn't the acknowledgment of twofold guidelines, it is the matter of utilizing various ones. What's more, the issue that we can characterize here is that if in Mass Medias writer needs to follow the guideline of Neutrality to Consequences, utilizing Social Networks as a stage for our distributions, we should know about symptoms they can cause blameless individuals who frequently are even not mindful of someone making their life open.

Another closeness in customary media that reaches out to new media is the repetitive technique for get-together data, drafting and editing. All together for the paper perusers and e-pamphlet watchers to get just the right news, news organizations draw in columnists, writers and editors so as to print a truthful article without botches. **(U.S. Authority of Labor Statistics, 2010)** Similarly, to maintain notoriety just as to guarantee that the electronic sources count with the printed media, a bit of article needs to experience a similar strategy so as to be distributed. **(Simmons, 2009)** The strenuous act of social occasion data is likewise utilized in communicated media to deliver dramatization serials and recordings of new media.

The two media stage serve a similar objective crowd be it on the web, in print or communicate. As referenced, each type of media has a target which is to disperse a specific message and keep the majority educated. Notwithstanding, for those whom purposes look like one another, they have same objective crowd to take into account and consequently, collecting a similar crowd. Perusers of design magazines, for example, Style or Vogue are destined to be the eager watchers of style locales like Lookbook. Along these lines, perusers of discussions and the home segment of neighborhood papers are well on the way to be blog-containers. Besides, fervent devotees of the communicate media, for example, TV and radio are probably going to be crowds of new media, for example, Youtube

LITERATURE REVIEW

The principal objective of a business is to make a benefit. Without winning enough cash, a business just will fail. Papers are no special case. As years pass by, organizations must adjust to meet client requests. For a considerable length of time, papers have managed little changes, however they are presently at a point where significant changes need to happen to stay serious. **Scientist Trombly (2002)** found that simply over half of 170 online papers indicated a slight benefit in 2001. The about 10-year-old investigation would presumably appear essentially various outcomes on the off chance that it had been directed in 2011. In any case, the numbers show an expansion of earlier years and could give significant knowledge into the eventual fate of paper gainfulness on the web. During this examination, Trombly found that Web improvement was the second-most income creating component of papers, Change of Newspapers in internet based life which numerous individuals may not understand Since the start of the Internet, papers have inquired as to whether they could give solid stream of income for business, and assuming this is the case, how it would be conceivable. The inquiry isn't easy to be replied, particularly by an examination led about 15 years back **(Kirsner, 1997)**. There was no chance to get for anybody to see how quick innovation would develop in the following decade. Despite the fact that **Kirsner's** expectations may be somewhat preservationist, he made a few reasonable contentions. For example, he referenced that individuals need to show restraint. Indeed, even papers today neglect to apportion enough assets to innovation, figuring it won't convey beneficial outcomes. Further, he referenced how fundamental promoting on the Web will be to online organizations. This articulation is exceptionally precise, in light of the fact that papers with Web locales currently consider increments to be income from publicizing as long as they convey enormous crowds’ different organizations try to target. Over the most recent couple of years, promoters are finding that web-based promoting is considerably more compelling than print. Web based publicizing is to a greater extent a long haul speculation **(Dorroh, 2005)**. In print, perusers can distinguish notices considerably more effectively, however online it is now and then hard to isolate promoting from amusement. As indicated by **Robertson (2005)**, paper memberships are diminishing, in light of the fact that buyers are acknowledging they can peruse a similar substance online for . On the off chance that papers expect clients to pay for online memberships to peruse all substance, they may lose income. Focal points of Using the Internet and Other Technologies Based on numerous investigations, spending and-coming advances could give papers numerous favorable circumstances.

Other the expanded incomes, they offer numerous different points of interest that individuals frequently neglect. New advancements pull in crowds to the news business. For example, the intuitiveness of social media is changing the manner in which buyers get and take an interest in news **(Gleason, 2010)**. For example. Twitter permits "devotees" to customize their news and react to the news sources they "follow" with questions, thoughts or concerns **(Farhi, 2009)**. Farhi saw that web based life, particularly Twitter, has changed the paper scene. Purchaser association has all the earmarks of being a critical bit of leeway of utilizing new, inventive innovations, and the interest causes crowds to feel increased in value. Further, these advances are giving crowds a feeling of intensity when they remark on news content **(Bly, 2010)**. As per Bly, crowd communication by means of web based life could be the "new 'large thing'" **(Bly, 2010, para. 1)**. With benefit still a definitive objective, some paper organizations changed once-print papers into basically online-based news sources. The article **"Little Paper Redefines Itself Online" (Frye, 2003)** portrays the amount more cash has been produced from online news than print. Most papers discover it hard to change and adjust to various strategies to which they are unfamiliar; be that as it may, one 70-year-old week after week went to the Internet as a life saver for its business. Indeed, even in an unassuming community of 3,500 occupants, it found that distributing news on a Web website brought the business incredible achievement. The inverse is a typical issue with numerous papers battling to keep clients perusing, since they decide not to contribute the time and cash into innovation that they ought to have years back **(Morton, 2007)**. The unassuming community paper gave extraordinary understanding into how venturing out turns a paper business around to improve things. Publicizing online is a lot simpler to track and gives promoters more adaptability than print. Thus, they are willing to pay top dollars to ensure that their messages are seen by explicit crowds for certain timeframes.

All through the most recent decade, innovative progressions have changed the manner in which we live our lives. They each accompany their own favorable circumstances and hindrances that purchasers must weigh before making choices. There were a few specialists who took an inside and out gander at the most well-known innovation that molded the manner in which papers are presently working together. **Analyst Yahr (2008)** composed that web journals would contribute incredibly to online papers' prosperity in the coming years. Web journals give a great deal of crowd association that was not already conceivable, not simply between crowd individuals, yet in addition among writers and crowds. Shoppers feel progressively associated furthermore, keep returning for more when they are a piece of a scholarly discussion about a news point that intrigues them. Yahr said online journals are not for everybody. With blog editors checking discussions, web journals can be a solid expansion to all news-related Web destinations that can help increment crowd numbers just as improve the manner in which news is conveyed. Mobile phones are additionally an exceptional innovation to which papers are adjusting. Cell phones are quickly changing the manner in which crowds see news. In the article "The Ever-Evolving Newspa-per," Frye said that instant messages and telephone applications are getting famous in newsrooms, since they send data in a split second to **perusers (2006)**. Changing in accordance with this new marvel looks after crowds' trust and consideration. During the 1990s, papers didn't hold onto innovation as much as supporters and even attempted to square phone organizations from entering the electronic market, since they dreaded rivalry and the obscure **(McKenna, 1993)**. In this decade, joining things shoppers need into one item is normal, and papers are finding that they can't keep on avoiding communicate, phones and the Internet any more. In addition to the fact that newspapers need to go up against these advances, however they have to figure out how to team up with

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Vol.40-Issue.89-March, 2020

them. Fate of the News Technological World It is dubious where innovation is going later on, so it is hard to check what eventual fate of the paper business will resemble. Data from the over a significant time span, notwithstanding, will assist forecasters with making forecasts about future patterns. Media futurists additionally share their experiences on how new papers will change in what's to come. Frequently, individual's characteristic the decay of papers to the ascent of the online news. Despite what might be expectedthere isn't as a lot of an association between the two the same number of individuals accept **(Palser, 2007)**. Positively individuals have started to incline toward speedy and viable news on the Internet and gradually drop paper memberships, yet Palser recommended it is the sort of news-casting, not the structure, that adds to paper battles. Crowds' requests are changing, and they need something advantageous rather than unmistakable. Also, a decent measure of clients despite everything think that its hard to confide in online news. Since anybody can add to news content on the web, a few shoppers waver to give a lot of validity to data on the Internet in examination with different news sources **(Baetke, 2006)**. Papers need to contact these online clients by building trust. When papers create trust, they will see higher benefits coming in. Numerous papers are checking purchasers' online remarks by expecting them to enroll. Papers are attempting to adjust crowds' opportunity to post what they please on Web destinations with the duty of ensuring that remarks are suitable and significant. By monitoring recognized posts, hostile remarks will diminish **(Gsell, 2009)**. The developing straightforwardness and shopper association are building crowds' trust of advancements that papers use. On the off chance that papers proceed on their present course, perusers will be satisfied, and papers will more than likely development accordingly.

OBJECTIVE

To check exploratory studies of newspaper in social media era

HYPOTHESIS

H_0: There is no significant dependency of Age and Print media acquaintance.

H_1: There is significant dependency of Age and Print media acquaintance.

RESEARCH METHODOLOGY

Sampling Universe is General public in Western Mumbai. Sample size is 163 people. Used convenient sampling Statistical Tools Used CHI SQ testing for this study. Data is analyzed Based on the responses collected from the respondents and performing the hypothesis test the results were found to be as below. Also, the pie chart displays the percentage variations in the attributes followed by the findings and interpretation of analysis.

HYPOTHESIS RESULT

Following are the ranges considered during the hypothesis experiment.

ACTUAL RANGE

Count of 1	**Column Labels**				
Row Labels	**1**	**2**	**3**	**4**	**Grand Total**
1	70	58	12	6	146
2	5	3	1	1	10
3	0	1	2	0	3
5	0	0	1	1	2
Grand Total	75	62	16	8	161

EXPECTED RANGE

Count of 1	**Column Labels**				
Row Labels	**1**	**2**	**3**	**4**	**Grand Total**
1	68.0124224	56.22360248	14.50931677	7.25465839	146
2	4.65838509	3.850931677	0.99378882	0.49689441	10
3	1.39751553	1.155279503	0.298136646	0.14906832	3
5	0.93167702	0.770186335	0.198757764	0.09937888	2
Grand Total	75	62	16	8	161

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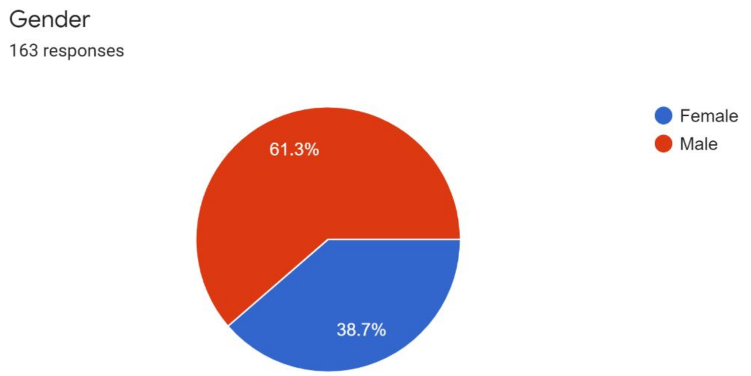
Vol.40-Issue.89-March, 2020

CHI SQ= 0.002151

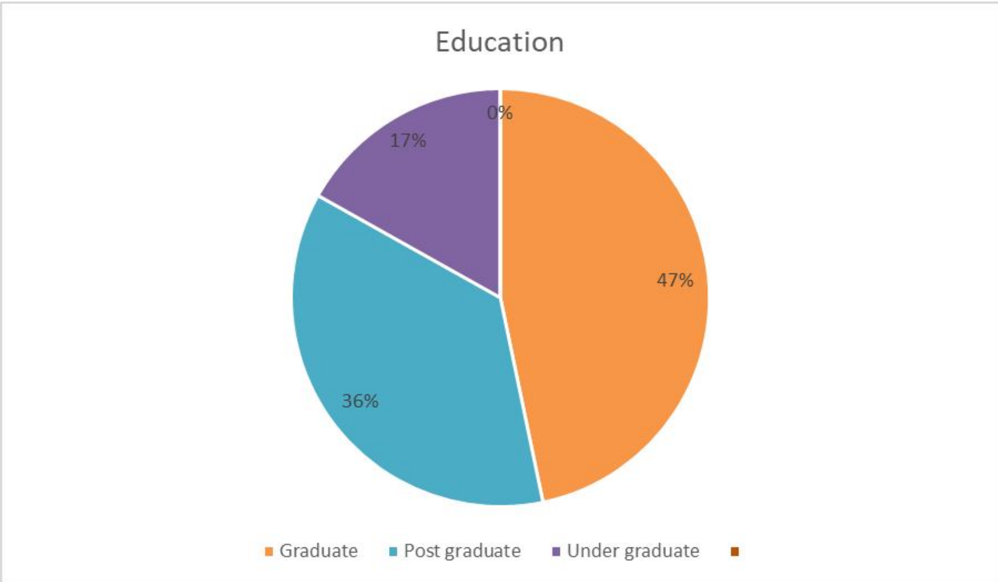
Interpretation
By the above consideration we fail to accept the null hypothesis as 0.002151 is less than 0.05 Therefore, the two attributes are dependent 0n each other that is Age & acquaintance.

DATA INTERPRETATION

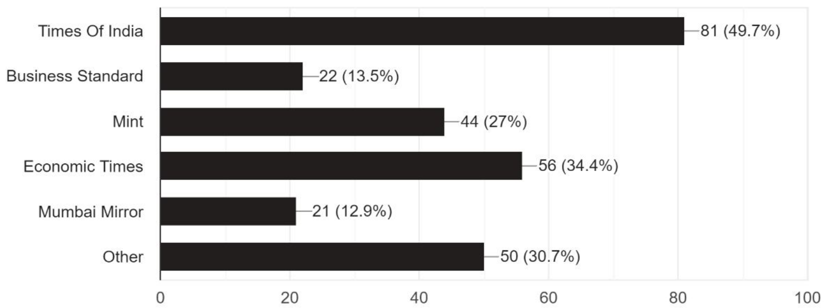
1: Gender



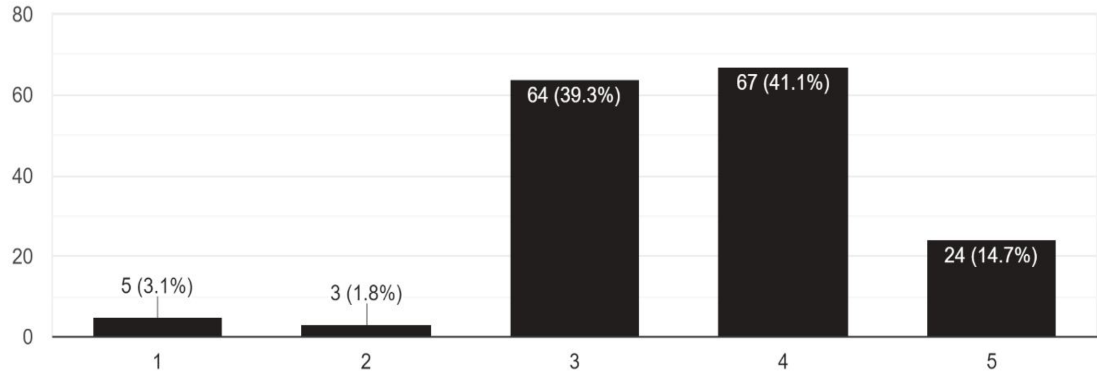
2. Education



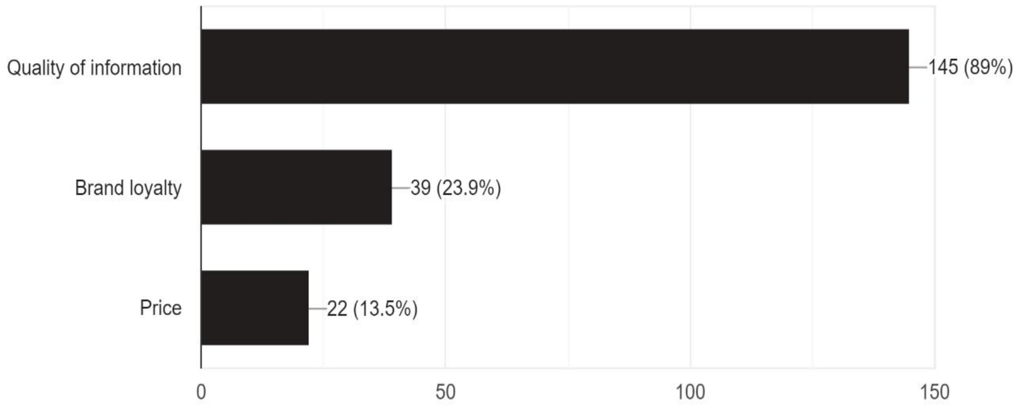
3. Most deciphered Print media.



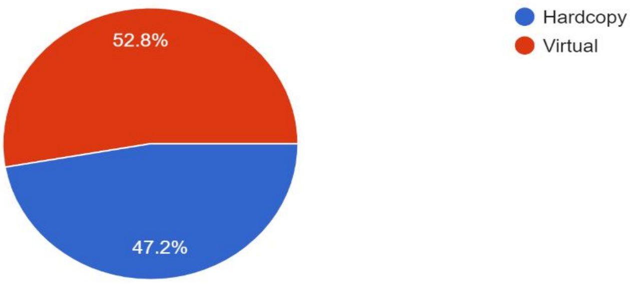
4. Learning Outcome.



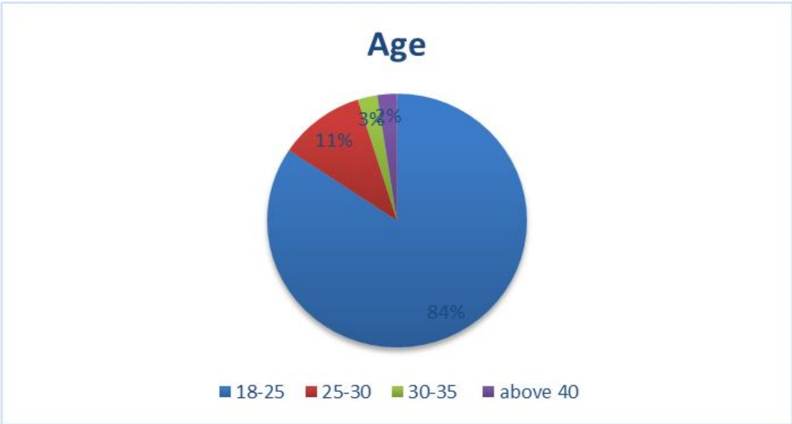
5. Brand biasedness



6. Preferred Form:

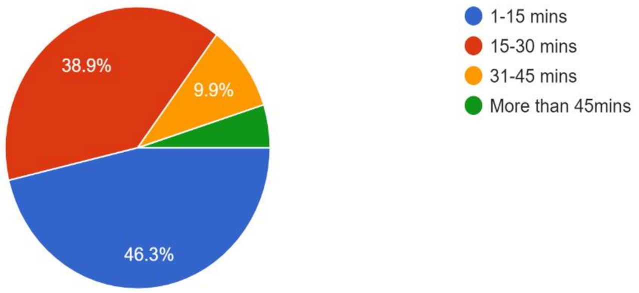


7. Age:



8. Daily Acquaintance:

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020



FINDINGS AND INTERPRETATION

- It was found that maximum respondent was male that is 61.3%while 38.7 per cent was female.
- It was found that out of all the respondent that maximum respondent preferred TIMES OF INDIA i.e. 49.7% , whereas preferred as follow BUSINESS STANDARD is 13.5%, MINT is 27%, ECONOMIC TIMES is 34.4%, MUMBAI MIRROR is 12.9% other is 30.7%.
- Learning outcomes of the maximum respondent on scale of 5 was 4 i.e. 41.1% and the least was 2 by 1.8%.
- . According to the above graph quality of information has proven to be major certifies to people we surveyed to give their unbiased attention to the particular newspaper whereas brand loyalty and price is consider to be secondary criteria for purpose.
- There is no intention in maximum respondent to change their initial choice and interest if cost hike takes place.
- In social media era it can the observed that according to the above pie chart, it can be inferred that maximum people prefer virtual copy over hardcopy this statement can used to justify our research purpose as 52.8% show its support to virtual media.
- It was found that 46.3% respondents spend 1-15mins on reading newspapers, and the least was found with More than 45mins with 4.9%.

CONCLUSION AND RECOMMENDATION

As our research statement says "Exploratory studies on newspaper in social media era", Research tried to show the relevancy between the newspaper existence in social media era where several parameters were considered such as demography, biasness, types of newspapers, age and acquaintances of time involved during reading newspaper in which age and acquaintances of time involved during reading newspaper was consider as variables. To prove it survey was conducted in western Mumbai and the number respondents turned out to be 163. Research was done using hypothesis which says "The significance of dependency of age on acquaintances" along with its contradicting statement which helped to say there is no relevancy in age and acquaintances of time as hypothesis failed to show it. Therefore newspaper has significant existence in social media era if age and acquaintances is considered as parameters. Also with mobile penetration increasing day by day the usage of virtual newspapers has increased as it's more convenient and reliable for people and handy as well. As age was our one of the parameters people belonging to age group 18-30 consider virtual newspapers over hard copy. Nowadays due social media era all the print media is getting digitalized as supply of information gets easier and faster. Due this people belonging form age group 18-30 consider virtual media over hardcopy where as people belonging in age group 45 and above.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

QUESTIONAIRE

FOLLOWING QUESTIONAIRE IS IN REGARDS TO TIMES OF INDIA NEWSPAPER(TOI)

NAME:

GENDER: M/F

AGE:

18-25

25-30

30-35

35-40

40 & above

Income group:

less than 1.5lac

1.5lac – 2.5lac

2.5lac – 3.5lac

3.5lac – 4.5lac

4.5lac – 5.5lac

more than 5.5lac

1.Name the specific print media you usually decipher on daily basis.

a. Times of india

b. Business standard

c. Mint

d. Economic times

e. Mumbai Mirror

f. other

2.Mention your daily usage of productive hours utilized in acquainting yourself with print media and the issues.

a. 1-15mins

b. 16-30mins

c. 31-45mins

d. More than 45mins

3.Your Specific rating as to such activity expands your intellectual maneuverings and alters your perspective.

a. 1- Good

b. 2

c. 3- Moderate

d. 4

e. 5- Excellent

4.Do you think regionalism and one's own language affects the information resonance?

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

a. YES

b. NO

5. What is your source of learning about newspapers?

a. Television

b. Friends/ Relatives

c. Internet

d. Sales Representatives

6.Do you observe a visible brand solidarity between TOI and the rest?

a. NO

b. YES

c. Maybe

7.What makes you give a certain newspaper brand your unbiased attention?

a. Quality of information

b. Brand loyalty

c. Price

8. Would a possible cost hike in the future reverse your initial choice and interest ?

a. Yes

b. No

9. Mention your daily expenditure on print media.

a. Less than Rs.10

b. Rs.10-Rs30

c. Rs.30-Rs50

d. More than Rs.50

10. In your opinion, what has more prevalence? The hard copy or the virtually simulated media?

a. Hardcopy

b. Virtual

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PEER TO PEER LENDING: INVESTORS' SATISFACTION TOWARDS RESERVE BANK OF INDIA REGULATIONS

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ABSTRACT

Peer-to-peer (P2P) lending is an alternative model of financing that enables individuals to obtain loans directly from other individuals, bye-passing the financial institution as the intermediary, but P2P lending websites facilitate this process of unsecured loans but do not lend their funds. In India, this industry is in the embryonic stage, and RBI came up with regulations(October 2017) to govern the industry. Some of the rules on the capital requirements, the maximum amount a lender can advance, maximum loan a borrower can take, the amount a single lender can give to an individual borrower, the maturity period of the credits etc. The present study found out whether the regulations are favourable to the growth and development of the industry and how satisfied are the investors who use these P2P lending platforms as the growth and development of this industry depend on these investors.

Keywords: Peer-to-peer lending, an alternative method of financing, investors on P2P platforms, borrowers on P2P platforms and regulators.

INTRODUCTION

Peer-to-peer lending is the fintech model of lending money to individuals or businesses through online that match lenders with borrowers. The P2P lending system has made the practice of borrowing and loaning money easy. Individuals can easily find loans online with a click of a mouse without going to banks in person or waiting for approvals. Low-interest rates, simplified applications and accelerated decisions have made the peer-to-peer lending model a considerable success in the digitized world. As these peer-to-peer lending companies offering these services generally operate online, so they can run these companies with lower costs and provide better service more cheaply than traditional banks. Because of this, lenders can earn higher returns compared to saving and investment products offered by banks. At the same time, borrowers get funds at lower rates of interest, even after the payment of a fee to match-making platform and for checking the borrower's credentials. P2P lending companies do not lend their funds but act as facilitators to both the lenders and the borrowers. Despite these advantages, still, there is a risk of the borrower defaulting on the unsecured loans obtained from the P2P platforms. Having offered borrowers an improved financial landscape, these institutions are gaining a foothold and momentum.

REVIEW OF LITERATURE

P2P lending industry, currently, is its embryonic stage in India(Dhawan, 2019) and it can disrupt the fintech industry and can surprise all. So as per the RBI's consultation paper(April 2016), it was essential to regulate the industry to prevent the financial sector from the shocks and surprises. Hence the bank invited opinions from the public and various stakeholders to formulate the policies. After obtaining the data, the RBI drafted the regulations and notified in October 2017. With P2P lenders coming under the RBI purview, there is better transparency in the system and higher confidence among participating lenders and borrowers, contributing to the growth of the sector(Kasture, 2017). Globally, the UK, the USA, and China have been dominant in this P2P industry. P2P lending is overgrowing in terms of both the volume and the number of players. The outstanding loan book in the UK industry is approximately Rs.25,000 crores in 2017, in the USA it was around Rs.1.3 lakh crores in 2016 and in China it was around Rs.4.4 crores in 2015(Care Ratings, 2017). Though P2Ps are new in India, regulations are more stringent than China(Saleem, 2018). Industry insiders estimate that the P2P industry disbursed around Rs 100 crores. Still, as per the RBI data, non-banking finance companies have distributed Rs 2 lakh crore between March and September last year (Bhakta, 2019), so P2P share is only 0.05 per cent. Indians, in general, are risk-averse people. Some of the investors who are ready to take the risk, which is inevitable in P2P lending, are facing regulatory restrictions, like a cap on the money they can lend. So the industry is not taking off as expected. The prudential norms set by the RBI, which affect the investors decisions and they are **i)** Any lender can advance a maximum of Rs. 50.00 lakhs across all the platforms. The lender investing more than Rs.10.00 lakhs across all P2P platforms shall produce a certificate to P2P platform from a practising Chartered Accountant certifying minimum net-worth of Rs.50.00 lakhs. **ii)** Any borrower can take a maximum loan of Rs.10.00 lakhs at any point of time across all the platforms. **iii)**The single lender can advance a maximum of Rs.50,000 to a borrower. **iv)** The maturity of the loans should not exceed 36 months. **v)** P2P company shall obtain a certificate from the lender that they adhere to the limits prescribed for them.

OBJECTIVES OF THE STUDY

1. To measure the satisfaction levels of the investors on P2P platforms towards Regulations notified by Reserve Bank of India.
2. To suggest various measures, based on the study, for improvement of the industry.

RESEARCH METHODOLOGY

Research design: Research design is the framework or plan for a study, used to guide the data collection. It is the blueprint for completing the survey. We take up exploratory research when we know little. But, when we have the well-defined problem and initial hypothesis, we resort to descriptive research design or experimental research design. Causal research is not possible in this case as we decided to obtain data from the opinions of investors on the platform. The descriptive research study is concerned with determining the frequency with which something occurs or the relationship among variables. In the present study, the objectives, research questions and the related hypotheses are proper and hence descriptive study is in order.

Data sources: The study employs both primary and secondary data. **Secondary data** are from the books, journals, magazines, reports. P**rimary data** are from the investors opinions.

Research Approach: A survey method

The study adopts the survey method to collect the data since the respondents or the investors on these Platforms, are spread across the whole country, and it is tough to contact them. So, the questionnaires were forwarded to the investors by using targeted google advertisements.

Research instrument: The researcher administered a structured questionnaire on investors to collect data online.

SAMPLING PLAN

The population size of the investors: A large number of investors registered with each of the lending platforms, but only a few of them provided the number investors on their websites. But the remaining P2P Lending Platforms did not furnish the number of registered investors on their websites. Hence a random sample could not be drafted as the population size is unknown in the case of investors, but it is large.

Sampling unit: The investors lending money to the borrower using this lending platform becomes the sampling units for this study.

Sample size: The number of registered investors on these P2P lending platforms will be significant as stated above, which is unknown to the researcher as some of the websites of the P2P platforms did not furnish the information of the investors. Hence we use the following procedure for sample size determination.

Sample Size determination for a population of greater than 10,000:
Sample size formula is: $n=Z^2pq/d^2$, where n= desired sample size, Z= 1.96 which corresponds to 95% confidence level, p = proportion in the target population estimated to have a particular characteristics. If there is no reasonable estimate, we use 50%, then q= (1-p) proportion in the target population not having the specified characteristics. The values of various variables in the formula are: Z =1.96, p =50%; q = (1-p) =50%; d = 0.05

Therefore the sample size(n)=$(1.96)^2$. $(0.5*0.5)/(0.05)^2$

= 384.16=>400(rounded)

Sampling method: We used **c**onvenience sampling method as there was no scope for using random sampling method since the population size was not known.

Contact method: We collected the data through an online survey.

Statistical tools: We used SPSS version 23 and Excel version 2016 for data analysis. We presented the data in frequency tables and analysed and also used the Chi-square test, t-test, and ANOVA for data analysis and interpretation.

RESULTS AND DISCUSSION

The reliability statistics: Cronbach's alpha is a measure of internal consistency; it expresses how closely related a set of items as a group. It measures the scale reliability. Cronbach's alpha coefficient of reliability ranges from 0 to 1 in providing an overall assessment. If all of the scale items are independent of one another, then alpha would be zero; and if all of the things have high covariances, then alpha would approach one. If the Cronbach value is more than 0.7, then it is acceptable. From table 1, for thirteen items, the Cronbach's value is 0.876 and remaining eleven items it is 0.724, and hence they are acceptable .

Table. 1: Reliability Statistics for each Construct

Constructs	Number of items	Cronbach's Alpha(N=400)
Investor Satisfaction levels	13	0.876
Recommendations and others	11	0.724

Source: Author's study

Personal profile of the investors on P2P lending Platforms, are presented in the Table 2

Table 2: Profile of the Investors

Category		Frequency	Per cent	Valid Percent	Cumulative Percent
Gender	Male	315	78.8	78.8	78.8
	Female	85	21.3	21.3	100.0
	Total	400	100.0	100.0	
Age	Less than 40 years	87	21.8	21.8	21.8
	40 and less than 60 years	161	40.3	40.3	62.0
	More than 60 years	152	38.0	38.0	100.0
	Total	400	100.0	100.0	
Edn.	Less than Degree	116	29.0	29.0	29.0
	Degree and Professional degrees	204	51.0	51.0	80.0
	PGs and above	80	20.0	20.0	100.0
	Total	400	100.0	100.0	
Income	Less than ten lakhs	102	25.5	25.5	25.5
	Ten and less than 20 lakhs	219	54.8	54.8	80.3
	More than 20 lakhs	79	19.8	19.8	100.0
	Total	400	100.0	100.0	

From table 2, out of 400 respondents, 315 are male 85 female, and they constitute 79 and 21 per cent, respectively. Out of 400 respondents 87 belong to the age group of less 40 years, 161 belong to the 40 and less than 60 years group and the rest 152 belong to the more than 60 years category, and they constitute 22, 40 and 38 per cent respectively. Out of 400 respondents, 116 are having less than degree as their qualification, 204 are having an ordinary degree or professional degree, and the rest 80 are having post-graduation or Ph D as their qualifications. They constitute 29, 51 and 20 per cent respectively. Out of 400 respondents 102 belong to the less than five lakhs income category, 219 belong to the ten and less than 20 lakhs income category and the rest 79 belong to the 20 and more than 20 lakhs category, and they constitute 25, 55 and 20 per cent respectively.

Table 3

Investor satisfaction towards RBI cap of Rs.50 lakhs of aggregate exposure

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Satisfaction Level		Frequency	Per cent	Valid Percent	Cumulative Percent
	Highly Satisfied	64	16.0	16.0	16.0
	Satisfied	72	18.0	18.0	34.0
	Indifferent	27	6.8	6.8	40.8
	Dissatisfied	132	33.0	33.0	73.8
	Highly Dissatisfied	105	26.3	26.3	100.0
	Total	400	100.0	100.0	

Out of 400 respondents, 64 persons are highly satisfied, 72 are satisfied, 27 are indifferent 132 are dissatisfied, and 105 are highly dissatisfied, and they constitute 16, 18, 7, 33 and 26 per cent respectively.

Table 4

Investor recommendation towards RBI limit of Rs.50 lakhs aggregate exposure					
Recommended Amount(Rs)		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	60 lakhs	20	5.0	8.4	8.4
	70 lakhs	20	5.0	8.4	16.9
	80 lakhs	13	3.3	5.5	22.4
	90 lakhs	84	21.0	35.4	57.8
	No limit	100	25.0	42.2	100.0
	Total	237	59.3	100.0	
Missing	System	163	40.8		
Total		400	100.0		

Out of 400 respondents, 237 respondents are either dissatisfied or highly dissatisfied, and they recommended various amounts as the aggregate exposure of the investor.

Out of 237 respondents 20 recommended for 60 lakhs, another 20 recommended 70 lakhs, 13 recommended 80 lakhs, 84 recommended 90 lakhs and 100 recommended for no limit.

Table 5

Investor satisfaction towards producing C A certificate, if investment exceeds Rs.10 lakhs					
Satisfaction Level		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	Highly Satisfied	64	16.0	16.0	16.0
	Satisfied	64	16.0	16.0	32.0
	Indifferent	27	6.8	6.8	38.8
	Dissatisfied	140	35.0	35.0	73.8
	Highly Dissatisfied	105	26.3	26.3	100.0
	Total	400	100.0	100.0	

Out of 400 respondents, 64 persons are highly satisfied, 64 are satisfied, 27 are indifferent, 140 are dissatisfied, and 105 are highly dissatisfied, and they constitute 16, 16, 7, 35 and 26 per cent respectively.

Table 6

Investor recommendation towards producing a net-worth certificate from the Chartered Accountant					
Options		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	The certificate is not required	147	36.8	60.0	60.0
	Certificate to the extent of investment if it exceeds Rs.10 lakhs	61	15.3	24.9	84.9
	Self-Declaration should suffice	37	9.3	15.1	100.0
	Total	245	61.3	100.0	
Missing	System	155	38.8		

Total	400	100.0		

Out of 400 respondents, 245 respondents are either dissatisfied or highly dissatisfied, and they recommended the method to be followed instead of a net-worth certificate from the chartered accountant.

Out of 245 respondents, 147 recommended for no certificate, 61 recommended for the certification to the extent of investment, and 37 recommended for the self-declaration.

Table 7

Investor satisfaction towards RBI cap of Rs.10 lakhs loan by a single borrower					
Satisfaction Level		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	Highly satisfied	60	15.0	15.0	15.0
	Satisfied	64	16.0	16.0	31.0
	Indifferent	27	6.8	6.8	37.8
	Dissatisfied	144	36.0	36.0	73.8
	Highly Dissatisfied	105	26.3	26.3	100.0
	Total	400	100.0	100.0	

Out of 400 respondents, 60 persons are highly satisfied, 64 are satisfied, 27 are indifferent, 144 are dissatisfied, and 105 are highly dissatisfied, and they constitute 15, 16, 7, 36 and 26 per cent respectively.

Table 8

Investor recommendation towards RBI cap of Rs.10 lakhs loan by a borrower					
Recommended Amount		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	25 lakhs	109	27.3	43.8	43.8
	30 lakhs	69	17.3	27.7	71.5
	No limit	71	17.8	28.5	100.0
	Total	249	62.3	100.0	
Missing	System	151	37.8		
Total		400	100.0		

Out of 400 respondents, 249 respondents are either dissatisfied or highly dissatisfied, and they recommended various amounts as a loan using P2P platforms.

Out of these 249 respondents, 109 recommended 25 lakhs, 69 supported 30 lakhs, and 71 recommended no limit. Hence RBI should consider this point as the percentage is 62, and the modifications will contribute to the economic development and generate employment to the youth since most of the SMEs are labour intensive.

Table 9

Investor satisfaction towards RBI cap of Rs.50 thousand loan by a single lender to a Single Borrower					
Satisfaction Level		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	Highly Satisfied	55	13.8	13.8	13.8
	Satisfied	55	13.8	13.8	27.5
	Indifferent	54	13.5	13.5	41.0
	Dissatisfied	170	42.5	42.5	83.5
	Highly Dissatisfied	66	16.5	16.5	100.0
	Total	400	100.0	100.0	

Out of 400 respondents, 55 persons are highly satisfied, 55 are satisfied, 54 are indifferent 170 are dissatisfied, and 66 are highly dissatisfied, and they constitute 14, 14, 14, 42 and 16 per cent respectively.

Table 10

Investor recommendation towards RBI cap of Rs.50 thousand loan to the single borrower				
Amount Recommended(Rs)	**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

	1.00 lakh	33	8.3	14.0	14.0
	1.5 lakhs	10	2.5	4.2	18.2
	2.00 lakhs	135	33.8	57.2	75.4
	No limit	58	14.5	24.6	100.0
	Total	236	59.0	100.0	
Missing	System	164	41.0		
Total		400	100.0		

Out of 400 respondents, 236 respondents are either dissatisfied or highly dissatisfied, and they recommended various amounts to a single borrower.

Out of these 236 respondents 33 recommended for Rs.1.00 lakh, ten recommended for Rs.1.5 lakhs, 135 recommended for Rs.2.00 lakhs and 58 supported for no limit, and they constitute 14, 4, 57and 25 per cent respectively. As Rs.50,000 is too meagre an amount, this amount may be enhanced to Rs.2.00 lakhs by the Reserve Bank of India.

Table 11

Investor satisfaction towards RBI cap of 36 months tenure of the loan					
Satisfaction Level		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	Highly Satisfied	41	10.3	10.3	10.3
	Satisfied	28	7.0	7.0	17.3
	Indifferent	28	7.0	7.0	24.3
	Dissatisfied	184	46.0	46.0	70.3
	Highly Dissatisfied	119	29.8	29.8	100.0
	Total	400	100.0	100.0	

Out of 400 respondents, 41 persons are highly satisfied, 28 are satisfied, 28 are indifferent 184 dissatisfied, and 119 are profoundly unhappy, and they constitute 10, 7, 7, 46 and 30 per cent respectively.

Table 12: Investor recommendation towards for maturity of a loan

Recommended Maturity Period	Frequency	Percent	Valid Percent	Cumulative Percent
42 Months	76	19.0	25.1	25.1
48 Months	84	21.0	27.7	52.8
54 Months	22	5.5	7.3	60.1
60 Months	72	18.0	23.8	83.8
66 Months	49	12.3	16.2	100.0
Total	303	75.8	100.0	
Missing	System	97	24.3	
Total	400	100.0		

In the table 12, out of 400 respondents 303 respondents are either dissatisfied or highly dissatisfied and they recommended various periods, for the maturity of their loans.

Out of these 303 respondents 76 recommended for 42 months, 84 recommended for 48 months, 22 recommended for 54 months, and 72 recommended for 60 months and 49 recommended for 66 months and they constitute 19, 21, 6, 18 and 12 per cent respectively. Some of the investors are feeling 36 months is too short a period and hence, the RBI may consider to enhance this period to 60 months.

Table 13

Investor satisfaction towards funds transfer between the participants through an escrow account					
Satisfaction Level		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	Highly Satisfied	47	11.8	11.8	11.8
	Satisfied	69	17.3	17.3	29.0
	Indifferent	25	6.3	6.3	35.3
	Dissatisfied	150	37.5	37.5	72.8
	Highly Dissatisfied	109	27.3	27.3	100.0

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

	Total	400	100.0	100.0	

Out of 400 respondents, 47 persons are highly satisfied, 69 are satisfied, 25 are indifferent 150 dissatisfied, and 109 are profoundly unhappy, and they constitute 12, 17, 6, 38 and 27 per cent respectively.

Table 14

11.2 Investor recommendation towards the transfer of funds between participants through the escrow account					
Options		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	P2P Companies should have their trustee in Bank	57	14.2	22.0	22.0
	P2P Companies should have the power to transfer money between the bank accounts	152	38.0	58.7	80.7
	P2P Companies should have full banking powers	50	12.5	19.3	100.0
	Total	259	64.8	100.0	
Missing	System	141	35.3		
Total		400	100.0		

Out of 400 respondents, 259 respondents are either dissatisfied or highly dissatisfied, and they recommended various types of options.

Out of these 259 respondents, 57 felt that P2P companies should have their trustee in the bank, 152 felt that P2P companies should have the power to transfer money between the banks and 50 respondents felt that P2P companies should have the full banking powers. They constitute 22, 59, and 19 per cent, respectively.

Table 15

Investor's opinion on lending secured loan to the borrower					
Satisfaction Level		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	Strongly Recommended	44	11.0	11.0	11.0
	Recommended	147	36.8	36.8	47.8
	Indifferent	26	6.5	6.5	54.3
	Not Recommended	104	26.0	26.0	80.3
	Strongly Not Recommended	79	19.8	19.8	100.0
	Total	400	100.0	100.0	

Out of 400 respondents, 44 strongly recommend, 147 respondents, approve, 26 are indifferent 104 did not support, and 79 strongly did not endorse the secured loan to the borrowers, and they constitute 11, 37, 7, 26 and 20 per cent respectively.

Table 16

Investor overall satisfaction towards RBI regulations					
Satisfaction Level		**Frequency**	**Per cent**	**Valid Percent**	**Cumulative Percent**
	Highly Satisfied	48	12.0	12.0	12.0
	Satisfied	100	25.0	25.0	37.0
	Indifferent	40	10.0	10.0	47.0
	Dissatisfied	183	45.8	45.8	92.8
	Highly Dissatisfied	29	7.2	7.2	100.0
	Total	400	100.0	100.0	

Out of 400 respondents, 48 persons are highly satisfied, 100 are satisfied, 40 are indifferent 183 dissatisfied, and 29 are highly dissatisfied, and they constitute 12, 25, 10, 46 and 29 per cent respectively. Fifty-three per cent of the respondents are disappointed, and hence RBI should think of modifying the regulations so that the industry may pick up.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Table 17a
Investor overall satisfaction towards RBI regulations
*** Gender distribution of the respondents**

Satisfaction Levels		Gender distribution of the respondents		Total
		Male	Female	
	Highly Satisfied	36	12	48
	Satisfied	78	22	100
	Indifferent	31	9	40
	Dissatisfied	149	34	183
	Highly Dissatisfied	21	8	29
Total		315	85	400

Ho1: Overall Investor satisfaction towards Reserve Bank of India regulations is independent of gender.

Ha1: Overall Investor satisfaction towards Reserve Bank of India regulations is dependent on Gender.

Table 17b

Chi-Square Tests			
	Value	**df**	**Asymptotic significance (2-sided)**
Pearson Chi-Square	1.950[a]	4	.745
Likelihood Ratio	1.916	4	.751
Linear-by-Linear Association	.315	1	.575
N of Valid Cases	400		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.16.

Inference: Since the P-value of 0.745>0.05, the null hypothesis is to be accepted, and hence we conclude that the overall investor satisfaction towards RBI regulations does not depend on the gender.

Table 18a: Investor overall satisfaction towards RBI regulations * Age Distribution of the respondents

Satisfaction Levels		Age Distribution of the respondents			Total
		Less than 40 Years	40-60 Years	More than 60 Years	
	Highly Satisfied	11	14	23	48
	Satisfied	22	44	34	100
	Indifferent	6	15	19	40
	Dissatisfied	41	78	64	183
	Highly Dissatisfied	7	10	12	29
Total		87	161	152	400

Ho1: Overall Investor satisfaction towards Reserve Bank of India regulations is independent of age.

Ha1: Overall Investor satisfaction towards Reserve Bank of India regulations is dependent on age.

Table 18b

Chi-Square Tests			
	Value	**df**	**Asymptotic significance (2-sided)**
Pearson Chi-Square	6.510[a]	8	.590
Likelihood Ratio	6.624	8	.578
Linear-by-Linear Association	.317	1	.573
N of Valid Cases	400		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.31.

Inference: Since the P-value of 0.590>0.05, the null hypothesis is to be accepted, and hence we conclude that the overall investor satisfaction towards Reserve Bank of India regulations does not depend on the age.

Table19a: Investor overall satisfaction towards RBI regulations * Education levels of the respondents

Satisfaction Levels		Education levels of the respondents			Total
		Less than Degree	Degree & Professional Degree	PGs and PhDs	
	Highly Satisfied	10	26	12	48
	Satisfied	30	53	17	100
	Indifferent	10	21	9	40
	Dissatisfied	59	87	37	183
	Highly Dissatisfied	7	17	5	29
Total		116	204	80	400

Ho1: Overall Investor satisfaction towards Reserve Bank of India regulations is independent of education levels.

Ha1: Overall Investor satisfaction towards Reserve Bank of India regulations is dependent on Education levels.

Table 19b

Chi-Square Tests

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-Square	4.498[a]	8	.810
Likelihood Ratio	4.593	8	.800
Linear-by-Linear Association	.592	1	.441
N of Valid Cases	400		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.80.

Inference: Since the P-value of 0.810>0.05, the null hypothesis is to be accepted, and hence we conclude that the overall investor satisfaction towards Reserve Bank of India regulations does not depend on the education levels.

Table 20a: Investor overall satisfaction towards RBI regulations * Income levels of the respondents

Satisfaction Level		Income levels of the respondents			Total
		less than five lakhs	Ten and less than 20 lakhs	20 and more than 20 lakhs	
	Highly Satisfied	6	29	13	48
	Satisfied	27	55	18	100
	Indifferent	9	22	9	40
	Dissatisfied	53	95	35	183
	Highly Dissatisfied	7	18	4	29
Total		102	219	79	400

Ho1: Overall Investor satisfaction towards Reserve Bank of India regulations is independent of income levels.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Ha1: Overall Investor satisfaction towards Reserve Bank of India regulations is dependent on income levels.

Table 20b

Chi-Square Tests			
	Value	**df**	**Asymptotic significance (2-sided)**
Pearson Chi-Square	7.300[a]	8	.505
Likelihood Ratio	7.919	8	.441
Linear-by-Linear Association	2.644	1	.104
N of Valid Cases	400		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.73.

Inference: Since the P-value of 0.505>0.05, the null hypothesis is to be accepted, and hence we conclude that the overall investor satisfaction towards Reserve Bank of India regulations does not depend on the income levels.

Table 21

Investor overall satisfaction towards RBI regulations & Gender of the respondents				
		Gender distribution of the respondents		
Satisfaction Level		**Male**	**Female**	**Total**
	Highly Satisfied	36	12	48
	Satisfied	78	22	100
	Indifferent	31	9	40
	Dissatisfied	149	34	183
	Highly Dissatisfied	21	8	29
Total		315	85	400

Ho5: There is no considerable difference in the overall satisfaction levels between male and female respondents.

Ha5: There is a substantial difference in the global satisfaction levels between male and female respondents.

Independent Samples Test						
		Levene's Test for Equality of Variances		**t-test for Equality of Means**		
Options		**F**	**Sig.**	**t**	**df**	**Sig. (2-tailed)**
	Equal variances assumed	.774	.380	.561	398	.575
	Equal variances not assumed			.541	127.010	.589

Inference: Since the P-value of 0.575>0.05, the null hypothesis is to be accepted, and hence we conclude that there is no difference in the investor overall satisfaction towards Reserve Bank of India regulations between male and female respondents.

Table 22: Investor Overall Satisfaction Towards RBI Regulations & Age Distribution of the Respondents					
		Age Distribution of the respondents			
Satisfaction Level		**Less than 40 years**	**40 and less than 60 years**	**More than 60 years**	**Total**
	Highly Satisfied	11	14	23	48
	Satisfied	22	44	34	100
	Indifferent	6	15	19	40
	Dissatisfied	41	78	64	183

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

	Highly dissatisfied	7	10	12	29
Total		87	161	152	400

Null Hypothesis: There is no significant difference in the overall satisfaction levels across the various age groups of the respondents.

Alternate Hypothesis: There is a substantial difference in the satisfaction levels across the different age groups of the respondents.

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	652.1333333	2	326.06667	0.6655327	0.53198368	3.885293835
Within Groups	5879.2	12	489.93333			
Total	6531.333333	14				

Inference: The table value of F for (2,12) degrees of freedom and at 5% level of significance is 3.8853. Since the computed value of F = .6655 is less than the table value of F=3.8853, therefore, we accept the null hypothesis. Hence we conclude that there is no significant difference in the overall satisfaction levels of the investors across various age groups.

Table 23

Investor Overall Satisfaction Towards RBI Regulations & Education Levels of the Respondents

Satisfaction Level		**Education levels of the respondents**			**Total**
		Less than Degree	**Degree and Professional degrees**	**PGs and above**	
	Highly Satisfied	10	26	12	48
	Satisfied	30	53	17	100
	Indifferent	10	21	9	40
	Dissatisfied	59	87	37	183
	Highly dissatisfied	7	17	5	29
Total		116	204	80	400

Null Hypothesis: There is no significant difference in the overall satisfaction levels across the various education qualifications of the respondents.

Alternate Hypothesis: There is a considerable difference in the satisfaction levels across the different education qualifications of the respondents.

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1627.733333	2	813.86667	1.62028	0.23827688	3.885293835
Within Groups	6027.6	12	502.3			
Total	7655.333333	14				

Inference: The table value of F for (2,12) degrees of freedom and at 5% level of significance is 3.8853. Since the computed value of F =1.62028 is less than the table value of F=3.8853, therefore, we accept the null hypothesis. Hence we conclude that there is no significant difference in the overall satisfaction levels of the investors across various educational levels.

Table 24

Investor Overall Satisfaction Towards RBI Regulations & Income Distribution of the Respondents

Satisfaction Level		**Income levels of the respondents**			**Total**
		Less than ten lakhs	**Ten and less than 20 lakhs**	**More than 20 lakhs**	
	Highly Satisfied	6	29	13	48

	Satisfied	27	55	18	100
	Indifferent	9	22	9	40
	Dissatisfied	53	95	35	183
	Highly dissatisfied	7	18	4	29
Total		102	219	79	400

Null Hypothesis: There is no significant difference in the overall satisfaction levels across the various income levels of the respondents.

Alternate Hypothesis: There is a considerable difference in the satisfaction levels across the different income levels of the respondents.

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2254.533333	2	1127.2667	2.1482658	0.1594103	3.885293835
Within Groups	6296.8	12	524.73333			
Total	8551.333333	14				

Inference: The table value of F for (2,12) degrees of freedom and at 5% level of significance is 3.8853. Since the computed value of F =2.1482658 is less than the table value of F=3.8853, therefore, we accept the null hypothesis. Hence we conclude that there is no significant difference in the overall satisfaction levels of the investors across various educational levels.

Table 25: Hypotheses and Inferences

Hypotheses	**Test value**	**Critical value**	**Decision**
1. Overall Investor satisfaction towards Reserve Bank of India regulations is independent of gender.	Chi-square1.950	9.49	Accept
2. Overall Investor satisfaction towards Reserve Bank of India regulations is independent of age.	Chi-square6.510	15.5	Accept
3. Overall Investor satisfaction towards Reserve Bank of India regulations is independent of education levels.	Chi-square4.498	15.5	Accept
4. Overall Investor satisfaction towards Reserve Bank of India regulations is independent of income levels.	Chi-square7.30	15.5	Accept
5. There is no considerable difference in the overall satisfaction levels between male and female respondents.	t-test 0.561	1.645	Accept
6. There is no significant difference in the overall satisfaction levels across the various age groups of the respondents	ANOVA 0.6655	3.8853	Accept
7. There is no significant difference in the overall satisfaction levels across various education levels of the respondents.	ANOVA 1.6202	3.8853	Accept
8. Overall Investor satisfaction towards Reserve Bank of India regulations is independent of income levels	ANOVA 2.1482	3.8853	Accept

SPECIFIC RECOMMENDATIONS TO THE RESERVE BANK OF INDIA:

1. **RBI prescribed a limit of Rs.50 lakhs aggregate exposure of the investor**: Out of 400 respondents 237 are either dissatisfied or highly dissatisfied which is 59 per cent. Out of these 237 respondents 100 opted for no limit and 80 recommended for Rs.90 lakhs. Hence RBI to decide favourably in enhancing the limit to Rs.1.00 crore.

2. **RBI cap of Rs.10 lakhs loan by a single borrower:** Out of 400 respondents, 249 respondents are dissatisfied or highly dissatisfied with this cap, which constitute 62 per cent. Out of these 249 respondents, 178 recommended either Rs.25 lakhs or Thirty lakhs which is 71 per cent. Hence RBI may consider enhancing this limit to Rs.25 lakhs

3. **RBI cap of Rs.50 thousand loan by a single lender to an individual:** Out of 400 respondents, 236 respondents are either dissatisfied or highly dissatisfied, which is 59 per cent. Out of 236 respondents, majority recommended for Rs.2 lakhs and hence RBI may consider this favourably.
4. **RBI limit of 36 months for the maturity of a loan:** Out of 400 respondents, 303 respondents are either dissatisfied or highly dissatisfied, which is 76 per cent. Out of these 303 respondents, the majority recommended for 48 months tenure of the loans. Hence RBI may positively consider this.

FUTURE DIRECTIONS FOR RESEARCH AND LIMITATIONS:

The stakeholders of the industry are P2P lending platforms, the investors and the borrowers on the platforms. But the present study included only investors, leaving P2P platforms and borrowers and hence the future research should cover all the stakeholders to make it a comprehensive one.

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CHALLENGES OF MILK MARKETING IN TRIPURA- SPECIAL REFERENCES TO GOMATI CO-OPERATIVE MILK PRODUCERS UNION LIMITED (GCMPUL)

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ABSTRACT

Dairy farming is one of the important enterprises which dominate the economic activities of the rural people in the rural areas of India as well as Tripura. Increasing demand for milk and milk products in recent years intensifies dairy farming as profitable enterprise for rural people. Dairying is recognized as an instrument for social and economic development. Indian dairy is a classic example of production by masses rather than mass production. The nation's milk supply comes from millions of small producers, dispersed throughout the rural areas. A wide range of milk producers (around 70 million rural households) viz. landless labourers, marginal, small, medium and large farmers are engaged in dairy farming in India. India is the seventh largest country and it has diverse climate and vast market opportunity. India retains the supremacy as the largest producer of milk. Our dairy sector has been showing the growth rate of nearly besides playing crucial role in the agricultural GDP. It is a matter of great concern that hardly 20 percent milk is processesd by organized sector, where the milk producers share in the consumer's rupee is about 70%. These organized sectors also assist the milkers by providing at a concessional price, the feed, medicine, treatment to the cattle, extra incentive in the form of bonus and important technical advices. For the rest amount, neither the milk producers are secured about their payback nor do they have ideal storage facilities. In Tripura dairy sector facing lots of challenges in terms production and marketing. The study concentrated the following objectives.

1. To examine the Marketing channels of the milk marketed by the Gomati Co-operative Milk Producers Union Limited.

2. To examine the marketing margin, marketing efficiency and marketing cost sold by the co-operative society.

3. To study the problems faced by the Gomati Co-operative Milk Producers Union Limited

Keywords: Challenges, Milk marketing etc.

INTRODUCTION

Dairy sector in India is an integral and interwoven part of traditional agriculture and plays an important role in the rural economy. It is closely interlinked with the socio-economic context of rural society. Indian economy is predominantly an agrarian economy with more than 75.00 percent of its people living in villages, semi-urban areas and depending upon agriculture and allied activities like livestock farming as well as dairy farming. The development of livestock sector has been receiving significant priority in India in the last two to three decades. The milching cow and dairy farming act as an agency in providing nutritive food materials, bullocks also used for draught power in agriculture and for transportation of agricultural commodity in areas where the mechanical transports are not operational. Infact next to Agriculture, Dairying has been proved to be a major source income and employment for the rural masses. The dairy sector in particular is considered as an important subsidiary occupation to the vulnerable sections of rural population like small and marginal farmers and landless agricultural labourers. Dairying is a centuries –old tradition for millions of Indians rural households; domesticated animals have been an integral part of the farming systems from time immeorial. Milk contributes more to the national economy than any other farm commodity –more than 10.5 billion dollars in 1994-95 (Dairy India 1997). The Dairy development programme commonly known as "Operation Flood" ("OF") was launched in 1970 to develop a self-sustaining national dairy industry on co-operative basis. Dairy farming, one of the most important economic activities in the rural areas in India. Livestock and Dairy is an important subsidiary occupation of the farm households in the North East States and Other parts of the India. The growth of Dairy sector in India particularly during the last couple of decades has been very impressive.

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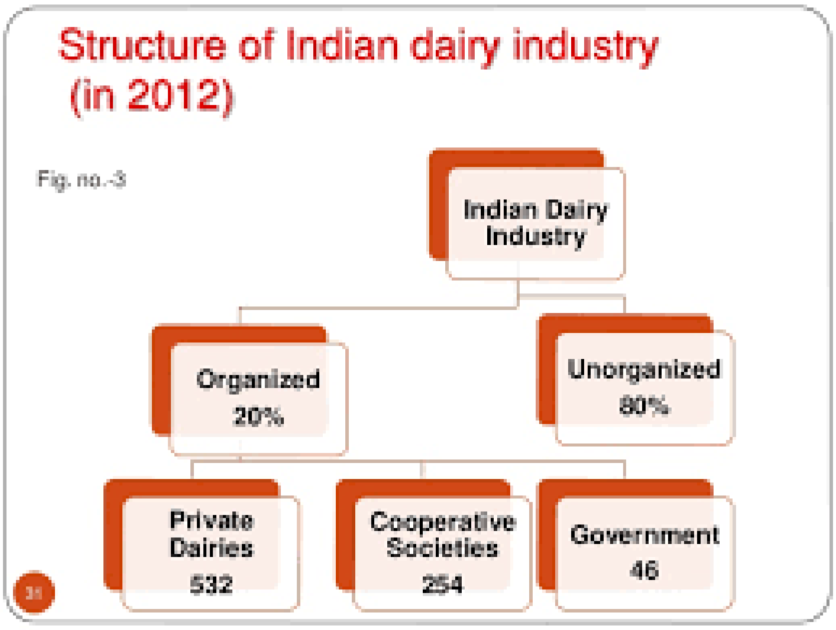
Vol.40-Issue.89-March, 2020

Integrated food supply chains serving urban areas are the fastest growing and most visible market phenomenon. Yet small scale milk market agents and chains supplying fresh milk and traditionally processed dairy products still play a very large role in most of the developing countries. They often provide the main outlet for small holder dairy producers, and the main source of fresh milk for resource poor consumers.

The Presence of milk cooperatives all over the country helps to organize the industry and give this sector a distinct advantage. Cooperatives allow for much easier marketing of the end product as compared to the other business. The Milk marketing has been undergoing a paradigm shift in India and the emergence of integrated milk supply chains on of the fastest growing and most visible market phenomena. The emergence of modern milk marketing chains is posing stiff competition for the existence of traditional milk market agents. However, the basic structure of milk production and marketing is not likely to change significantly in the near future and therefore, the dominance of traditional milk market chains will continue to persists inspite of the rapid growth of the organized and formal milk marketing chains. The structure and functioning of the traditional and informal milk market is not well understood in India. Indepth understanding of the traditional milk production and marketing and would be useful evolving policies and strategies for the development of an efficient milk value chain .



IMPORTANCE OF DAIRYING IN TRIPURA

The importance of dairying lies not only in production of milk, but in its capacity to bring about significant changes in the socio-economic structure of rural economy. Its role in employment generation is well recognized. It has provided numerous small and marginal farmers and agricultural labourers with supplementary employment and a regular source of income. Dairying and its related activities create jobs equivalent to about 25 million a year. The significant role played by the co-operatives in stimulation of dairying has also proved to be an important source of progress.

OBJECTIVES OF THE STUDY

❖ To examine the present status of Tripura Dairy Sector.

❖ To study the milk marketing channel in Tripura.

❖ The challenges and problem faced by Tripura Dairy sector.

REVIEW OF LITERATURE

In the context of globalization and technological changes a number of developing countries including India consider their livestock production system is vulnerable to trade liberalization , mainly because of dominance of smallholder system(Sharma 2003). According to all India Debt and investment survey of 1981 about 73 percent of rural households reared livestock which is the subsidiary source of employment and income to small and marginal farmers, agricultural labourer and other weaker sections of the society. Besides income and employment dairy farming provides nutritional security to the rural people. Saini 1981 reported, he said that age of the farmers has negative and significant effect on his income , indicating that Dairy farm income would registrar with increase in the age of the farmer. It may be due to the fact that younger generation is more responsive to scientific technology which consequently affects the gross income of the farmer. Patange, 2001 found that Dairy farmers with large size of land holding tended to increase the milk production as compared to Dairy farmers who had small land size. Traditional small scale markets still account for over 80% of marketed milk in many countries in South Asia ,Sub –Saharan Africa and in Latin America (OMORE et al 2004). In India, too, some 80% of milk marketed still passes through these traditional milk marketing channels in spite of the high profile given to co –operative dairy development throughout the operation flood programmes (Steven et al., 2008) . Smallholder dairy farming is increasingly gaining importance as a source of family income in all mountain areas for quite some time (singh,2000,2001,2002a,2002b,2002c; Singh et al.,2001) . There may be variables in Dairy farms in terms of their management, species of dairy animals,products,inputs,etc.These variablesand the overall performance of a dairy farm would largely depend on its location and linkages with market (Singh ,2000, 2001; singh et al .,2001). It has been observed that the highest per capita milk consumption is at the dairy farms not linked with the market system (Singh,2000). If milk is to flow from rural areas to the urban ones , its availability and consumption rate at the production place will decrease considerably. According to Prasad ,2001 revealed that ,out of the total milk producers, 61 percent possessed land and 39 percent possessed no land.The average wetland holding was 4.82 acres among milk producers who possessed wetland while the dry land average was 6.29 acres among the milk producers who possessed dry land. Singh ,1985 revealed that addoption of dairy innovations of the progressive village farmers was positively and significantly correlated with the total annual income of farmers. Dairying is carried out mostly by the disadvantaged and poorer section of population as this sector provides part-time/wholetime employment to 19.00 million people i.e,about 8.0 percent of total working force in 2001-2002. The contribution of Dairy sector GDP is incrasing faster rate in comparison to agriculture proper, which is declining. It contributes on estimated 8.4 percent GDP and 35.85 percent agriculture at current prices in 1993-1994. The dairy sub sector occupies an important place in the agricultural economy of India as milk is the second largest agricultural commodity in contributing to GNP, next only to rice. In 2005,Indian milk production represented 14.6 percent of the world milk production , exceeding the combined production of the top five dairy countries in the EU-25 (Babcock,2006).India being the largest milk producing country in the world and as compared with 1998-99 figures , its milk production having been increased by about 40 percent in 2007-08 ,the per capita availability of milk is even different across Indian states ; as for example ,in West Bengal it is 128g/day,which is much lower than all-India figure (NDDB,2007-08).Despite impressive growth in milk production during the past three decades , productivity of dairy animals continues to remain very low and milk marketing system is primitive.Currently ,more than 80 percent of the milk produced in the country is marketed by the unorganized sector (private organizations) and less than 20 percent is marketed by the organized sector (Government or Cooperatives societies).A few studies have explored the constraints of Cooperative and private Dairy plants in improving their efficiency in the Indian Perspectives (Chaudhary and Panwar ,2004; Rajendra and Mohanty ,2004 ; Nirmala and Muthuraman ,2009; Singh et al., Thorat and Kulkarni ,1994).

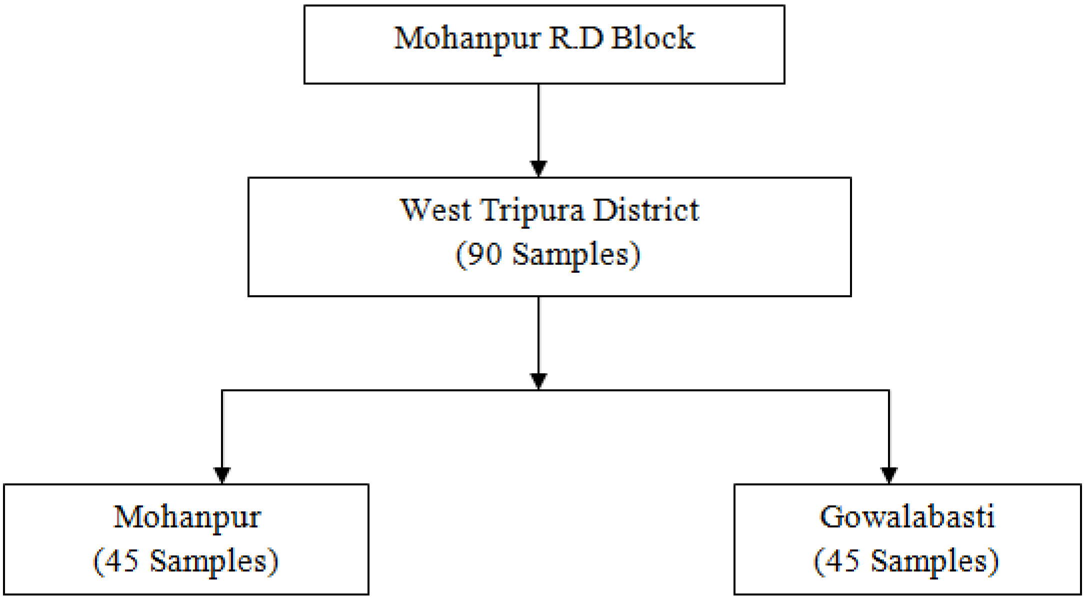
COLLECTION OF DATA AND METHODOLOGY

The data were collected from both primary and secondary sources. The primary data were collected from the individual milk producer with the help of structured interview schedule from the respondents. The West Tripura District was selected purposively for this study as the number of cattle population is highest in this District as compared to other districts.

Blocks i.e., Mohanpur R.D Blocks were also selected purposively from the West Tripura Districts, as the number of cattle population is highest in these Blocks. Further, from this Block two villages with highest cattle population was selected purposively. From each village 45 i. e., in total 90. This two village is Mohanpur and Gowalabasti.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Details sampling design are given in the flow chart:



RESULT AND DISCUSSION

Cow status of Tripura: Important figures of 18th livestock Census of Tripura State

Scenario of Dairy in Tripura

Indigenous cattle in Tripura are small in size, low producing and non-descript (desi cows). Indigenous cattle constitute 89.00 percent of the milch animal population in Tripura but contribute only 71.00 percent of the milk production. The crossbreed cattle population in the State is only 11.00 percent of the milch animal population and they contribute over 25.00 percent of the total milk production.

The Status of Non-Descript and Crossbreed Cows of Tripura

Livestock Population			
Species		2003(Census)	2007(Census)
Cattle (Non-Descript)			
a.	Male	3,13,923	3,59,559
b.	Female	3,67,949	5,15,179
c.	Total	6,81,872	8,74,738
d.	Female Cows in milk	1,36,431	1,45,788
Cattle (Crossbreed)			
a.	Male	10,684	12,393
b.	Female	46,620	61,150
c.	Total	57,304	73,543
d.	Female cows in milk	16,430	18,949
Total breedable Cows		1,83,151	2,42,323

Source: Directorate of animal husbandry Department Tripura

Important Figures of 18th live stock census-2007 in Tripura State

(Provisional Report)

Sl No.	District	CB in Milk	Total CB Female	Total CB Cattle	ND in Milk	Total ND Female	Total ND Cattle	Total Cattle
1	2	3	4	5	6	7	8	9
1	West	11391	36901	42830	55445	203045	329814	373644
2	South	4365	14334	18038	46938	163559	276834	294872

3	North	1707	5739	7106	27095	93007	162574	1699680
4	Dhalai	1486	4176	5569	16310	55565	105513	111082
5	Grand total	18949	61150	73543	145788	515176	874735	874735

Source: Directorate of animal husbandry Department Tripura

Demand projections reveal that milk consumption in Tripura would be well over 263126 metrictonnes annually by 2015, a growth of 14.00 percent in total Demand over the period 2005 to 2015. The per capita milk availability in Tripura is 77.00 gram/day (2009-2010) as against the ICMR recommended quantity of 250.00 gram/day. Thus, there is huge gap in per capita milk availablity in Tripura.

In order to meet this rising demand of milk, therefore there is urgent need for enhancing the productivity of the cattle population. Therefore the state has adopted a breeding policy which on one hand will preserve the genetically derived adaptability, while on the other are better milk producers.

Breeding Policy of Tripura:

The policy for improvement of milch animals in Tripura is:

(i) Crossbreeding of the indigenous non-descript cattle with Exotic Dairy Breeds.

(ii) Intersemating of crossbreed cows with selected half bred bulls to produce an inter se mating population of half breeds, maintaining the genetic contribution of the two parental types constantly at half and half ,ensuring endurance and survivability inherited from the Indian Mother; and high milk production qualities from the Exotic Bull.

The exotic breed used as donor for ing the indigenous non-descript cattle in Tripura is Jersey. Halfbreed Holstein Friesian X Gir Bulls used for inter semating of the halfbreeds/and all existing crossbreed cows and heifers.

The non-descript cattle in Tripura are small in size (150-200 Kg body weight) and the crossbreeds produced out of them with Jersey too would be small. A correction in the body size of the next generation will produce an animal with 300-350 Kg body their inherent genetic potential.

Therefore Bulls (Frozen Semen) used for Artificial Insemination of the indigenous cattle is pure Jersey and for halfbreed populations genetically evaluated F1 crossbreed bull semen (Holstein Friesian X Gir) produced on contract in an identified specialist farm.

The outcome of the breeding policy implementation will be a growing population of intermating, high yielding, halfbreed cows for milk production in the state with 300-350 Kg body weight and some 3000 Kg milk production per lactation of 300 days.

Livestock sector in Tripura is extremely livelihood intensive. Livestock production in the state is predominantly the endeavour of the small producer’s. Marginal and small farmers and the landless together own nearly 95.00 percent of all species of livestock. Over 80 percent of all rural households own livestock, often a mix of several species and as part of the traditional mixed crop-livestock farming system: earning substantial incomes out of them and enriching family diets with nutrient rich animal products.

The Tripura Livestock Sector Review Exercise (LSRE) sector analysis shows that over 60.00 percent of the rural household income comes from livestock farming for almost 70.00 percent of the rural households. Milk is a commodity traded widely across the rural areas and milk constitutes a major source of household income.

Season Wise Milk Production in Different District of Tripura

Name of the District	Name of Season	Milk Production (in MT)
1	**2**	**3**
West Tripura	Summer	14592.95
	Monsoon	15020.61
	Winter	15434.87

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

	Total	45048.43
South Tripura	Winter	9489.56
	Monsoon	9767.71
	Winter	10021.06
	Total	29278.33
North Tripura	Winter	5182.68
	Monsoon	5333.26
	Summer	5466.30
	Total	15982.24
Dhalai District	Winter	3347.28
	Monsoon	3446.47
	Summer	3537.64
	Total	10331.39
STATE TRIPURA	GRAND TOTAL	1,00,640.39

Source: ISS 2009-2010

Marketing Channels

The marketing channel of milk in India is presented in the schematic figure no 5.1.1, which reveals that eighty percent of milk is marketed through the highly fragmented unorganized sector, which includes local milk vendors, they also called as Village Trader, wholesalers, retailers and producer themselves. On the other hand, organized dairy sector, which accounts for about 20 percent of total milk production, comprises two sectors, Government and Co-operatives. However Co-operatives provide a remunerative price to the producer. Even than the unorganized sector plays a major role in milk marketing because of three factors.

The first factor is the pricing policy of the co-operatives: their purchase price is based on the fat content of the milk, whereas the private sector pays a flat rate per liter of milk. The second factor, which motivates the milk producers to sell milk to private vendors, involves the type of milk cattles reared by the producer. Crossbreed cows yield more milk with a lower fat than by the non-descript cattles. The crossbreed cows' population has increased over the years because of more profit which motivates producers to sale their milk to the private sector. The third factor is the easy payment policy. The private sector can pay their producers every day, whereas the co-operatives pay weekly or fortnightly.

Particulars	**Small**	**Medium**	**Large**
Channel-I Producer → Village Trader → Consumer	14 (15.55)	8 (16.00)	6 (15.00)
Channel-II Producer → Village Trader → Sweet Shops	5 (5.55)	4 (8.00)	10 (25.00)
Channel –III Producer → Sweet Shops	7 (7.77)	9 (18.00)	5 (12.5)
Channel-IV Producer → Co-operative Society → Retailer → Consumer	30 (33.33)	18 (36.00)	14 (35.00)
Channel-V Producer → Consumer(Door to Door)	34 (37.77)	11 (22.00)	5 (12.5)
Total	90 (100.00)	50 (100.00)	40 (100.00)

Challenges of GCMPUL

The Tripura Dairy sector is comprising mainly farmers with small landholding and having low productivity milch animals.

There are many milk producers clustered with in a village. The Villages are scattered and away from the urban consumption centres.The real challenge is to organize this scatter and to weave a network that can make the system work as an industry.

Every small milk producer dependent upon income from the scale of milk produced daily. Default in the regular payment foils his family budget.

SWOT Analysis of Tripura Dairy as well as Indian Dairy sector:

Strength	Weakness
1. Conversion of low /no value crop residues to milk. 2. More equitable distribution of value generated. 3. Almost year round employment. 4. Food and livelihood security for poor. 5. Successful model like Amul ,Mother Dairy, Aavin etc.	1. Numerous producers and small volumes. 2. High transaction cost. 3. Quality problems. 4. Many organized players competing to small market segments. 5. Political and bureaucratic interference. 6. Weak research and development department. 7. Poor capital management system. 8. Low capital formation. 9. Veterinary and health care adequate infrastructure is not available.
Opportunities	**Threats**
1. High value addition products. 2. Collaboration and consolidation. 3. Established R&D institutions for breed improvement and disease control. 4. Emerging technologies like biogenetics. 5. Intermediate product market ghee, chana, khoa, panner.	**1.** Non tariff barriers to exports. 2. High level subsidies to dairy industries to developed countries. 3. Competition in the market from highly subsidized dairy products from developed countries. 4. Short supply to over supply markets.

PROBLEMS

- Shortage of Land.
- Shortage of Common Property Land Using for Milk Producers.
- Problems of Feed and Fodder Cost.
- Non-availability of Green Fodder during a Year.
- Non-availability of Regular Market Facilities of Milk in Tripura.
- Lack of Inadequate Veterinary Facilities.
- Problems of Quality Based Price.
- Non-availability of regulated market.
- No fixed price policy is evolved.
- Milk rate is very less.

FINDINGS

- Major findings is milk production has been increased from 2006-07 to 2010-11 71 gm/day to 80 gm/day.
- There are five milk marketing channels identified in Tripura. Only 37.77% milk producer in Tripura to sale the milk directly to the consumer (door to door).

SUGGESTION

- Supply of Feed and Fodder at a Subsidized Rate.
- Adequate Veterinary Services.
- Proper Training Facilities.
- Infrastructure Development.
- Infrastructure Development of Cattles Sheds
- Marketing Infrastructure
- Artificial Insemination

- Introduce the Dairy Co-operative Society

CONCLUSION

India has enormous potential for milk producer development in terms of diversity of rural occupations. Milk producer play a significant role in Dairy farming. Milk production activities of Tripura is affected by a number of social, economic, administrative and technical constraints. Some of these constraints are physio-environmental and do not have solution until unless fundamental research is carried out in the area. The role of Tripura Government should be to direct, coordinate, and regulate the activities of various organizations engaged in dairy development; to establish and maintain a level playing field for all stakeholders; and to create and maintain a congenial socio-economic, institutional, and political environment for dairy development. A comprehensive dairy development policy must be formulated. Such policy should be an integral part of state and national development policy. All the above mentioned suggestions shall certainly pave the way for more milk production with better returns to milk producers and growth and development of dairy sector all over the nation and in the state of Tripura, in particular.

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ABSTRACT
Extension Education concentrates on expanding the span of knowledge and generates resources for the Universities and colleges to provide the community and vice-versa to gain insights into the socio-cultural realities. This knowledge is applied for the welfare of the community for its benefit with the simultaneous learning of socio-cultural realities by the students through a participatory approach. Through the Extension Dimension, it has also to work for the empowerment of women and for the development of a responsible attitude among teachers and students towards population issues through the activities of extension work which are basically community oriented activities. The research was conducted within the university to understand the impact of these activities on the students participating in it. Since the students participation in these activities has been increasing every year, it is assumed that it has impacted the students for their benefits related to their career choices. The aim of the research was to study the development and impact of Extension Education Program in higher education for rural development. The findings of the study show that the extension work activities have impacted the students positively and remarkably.

Keywords: Extension Education, Extension Work, Community Work, Field Work, Extension and community Oriented Activities

INTRODUCTION

Universities have been assigned the tasks of generating, disseminating and applying knowledge for the benefit of the people at large through research, teaching and extension education. All universities perform the tasks expected to be discharged by them. University of Mumbai has been making efforts through the Department of Lifelong Learning and Extension to strengthen Extension Education, the third Dimension of the University System so as to prepare socially-sensitized teachers and students. The University, keeping in view the UGC policy, first conceptualized a non formal stream of education as the alternative route to the traditional route which was proposed to be devoted through extension work by the students and teachers. It has attempted it by reorganizing the man power knowledge, material and academic resources available to it in the form of its staff, college students, college infrastructure, grants and programs sanctioned by UGC and the benefit of ten grace marks awarded to students for undertaking one hundred and twenty hours of community based work which is called as annual extension work besides regular studies and curricular activities.

These Departments are committed to bring the educational opportunity within the reach of the common man by offering programs which are flexible, accessible and relevant to the needs of the rural community through the development of an alternative route for learning. They are also supposed to provide means or the up-gradation of skills leading to increase the employability of the university graduates in particular and the rural community in general. It is concentrating more in rural areas for Extension Work. As a result, the participation of the students from rural areas in these extension work activities has been increased from interdisciplinary faculties including arts, commerce, science, management, pharmacy, law and engineering.

Today, more than 32,000 students are participating from all these interdisciplinary sections in this annual extension work which is also termed as higher educational activities for the benefit of the society and making efforts to reach to the unreached sections of the society with their socially oriented activities as a part of their academic work. The research is done to study systemic work done by these students and its impact on the rural development in turn the development of the society.

REVIEW OF RELATED LITERATURE

The review of related literature revealed that very few studies have been conducted in the field of extension education. Very few researchers concentrated on development of extension education program. Though many of the researchers have touched upon various subjects and concepts in extension education, very few researchers conducted their studies on different extension programs. Some of the researchers concentrated and studied the problems of students and teachers in participating extension activities. Others concentrated on attitude of teachers and students. But systematic development of extension education program at national and international level and its role for rural development was not studied so far. The present study is an attempt in this direction to conduct this study for the development of extension education model to be submitted to UGC.

Aim: The aim of present research was to study the development and impact of Extension Education Program in higher education for rural development since the introduction of Extension Program by the Department of Lifelong Learning and Extension) of the University of Mumbai which conducts the Extension Education Program in the University for every academic year.

OBJECTIVES

1. To study the systematic development of extension education program for rural development.
2. To study the contribution / role of extension work activities in relation to higher education opportunities and benefits for rural development.
3. To study the impact of extension work activities in relation to higher education opportunities and benefits for rural development.
4. To compare the impact of extension work activities for social welfare of rural communities on the basis of:

a. Locality i.e. Urban v/s Rural

b. Gender: Male v/s Females

c. College type: Undergraduate v/s Post Graduate

5. To compare the role of extension work activities for social welfare of rural communities on the basis of:

a. Locality i.e. Urban v/s Rural

b. Gender: Male v/s Females

c. College type: Undergraduate v/s Post Graduate

6. To ascertain the gender differences in contributing social awareness to reach to unreached sections of the society.
7. To study the factors (academic & social) responsible for the development of higher education opportunities in extension education.
8. To prepare model program in extension work for the Indian universities.

Rationale: To initiate the dimension of extension education, the Department has converted the mere execution of UGC sanctioned field programs into the execution of extension work projects by students thus ensuring the extension of data, man-power and material resources of an establishment to the agricultural community and therefore the learning of socio-cultural realities by the scholars. The tactic utilized for achieving this conversion includes enrolment, training of various levels of functionaries, project work by students, tools developed for monitoring and evaluation and further new developments within the program.

All universities perform the tasks of teaching and research because the minimum responsibilities expected to be discharged by them. Just in case of University of Mumbai, today, the Department of Lifelong Learning and Extension has been conducting Extension Education Program with the involvement of quite 32,000 students of nearly 310 colleges affiliated to college of Mumbai within the year 2018-2019. Such an enormous response in Extension Program as compared to earlier 13 colleges and only 765 students in Extension at the start in 2002-2003 (when these activities were introduced within the University) is not found in the other Universities under UGC.

Therefore, the investigator made an effort to review this systematic development of Extension Education Program at National and International level. It is clear that there could also be some academic or social factors liable for the event i.e. the involvement of scholars and colleges during this program which is increasing at every school year. This study is going to be helpful to the

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Vol.40-Issue.89-March, 2020

UGC to recommend extension model to other Universities and develop extension education. It will also help to revise the programs and better educational opportunities within the extension education as per the need of the policy. The study is predicted to state the gender differences in achieving educational goals under education. Within the present study, the investigator also tested the role of the teachers and students in their participation in extension education from rural and concrete areas. It will help to match their roles and broaden the extension education program as per the necessity of the society. The investigator has attempted to seek out the factors liable for the event extension education at national and international level because it is important to form extension program more student and social-oriented in order that the scholars and therefore the society are going to be benefitted.

Plan of Work: This study has used developmental approach under descriptive research and conducted with the assistance of resources available at national and international level like published reports, articles, publications of Govt. of India, the school and the Departments. The sequential and systematic study of those documents is conducted. The interview technique and questionnaire was used to test the opinion of the heads of concerned departments in nationwide universities, students, teachers, the principals of the universities also enrolled and having responsibilities in extension education for the academic year 2012-2013 onwards from state of Maharashtra and other state universities. For the aim, personal visits to the universities, districts and various state universities participating extension education were conducted. The teachers were interviewed who have quite three years of experience in extension education and conducting extension activities in their Universities. The questionnaire was made by the investigator keeping in mind the target of the study. Questionnaire supported extension education prepared by the investigator and validated by the experts examining the opinion of the teachers was used as research tool of the study. The research was conducted within the stipulated period of three years.

Scope of the Research: This investigation is predicted to provide feedback to the departments nationwide so on conduct extension activities smoothly as per the policy and keeping in mind the beneficial aspects of scholars and therefore the society. It is also expected to supply feedback to the UGC about the extent of importance of extension education. The results of this study shall project whether extension education needs more changes and suitability as per the requirements of the scholars. This study will be helpful to Govt. of India to style the precise model of extension to be followed by nationwide state universities. The study is helpful to all or any other such departments to suggest various new ways to develop extension education. Study also will help the curriculum planers to plan the curriculum keeping in mind the factors liable for the event of extension education. The teachers and therefore the students are going to be motivated to develop extension education by this research and the society is going to be benefitted with social awareness. Thus, if the study is found to achieve success , the concerned ministry will be informed to be ready to make necessary changes within the conduct of extension education in order that it'll end up to be more student and social oriented which can benefit the society at large.

LIMITATIONS OF THE STUDY

Past researches from the review of related literature suggest that many researcher only concentrated on problems or activities conducted at University level. Though there are many problems for students and teachers completing extension activities, the participation of the students in extension activities are increasing every year from Mumbai, Thane, Raigad, Ratnagiri and Sindhudurg districts of Maharashtra. As a result today more than 32,000 students from nearly 190 colleges affiliated to University of Mumbai are participating in these activities. The researcher expects more participation every year for next three years. There may be some factors responsible for increase in the participation of these students. The level and ratio of increasing participation encourages active and meaningful learning and promotes responsibility of creating social awareness and autonomy to reach towards maximum number of beneficiaries associated with these activities. As these activities are beneficial in achieving desirable educational goals for students, this study can be significant to students to get alternative method to pay back to the society. This study will be useful in making students more social oriented. The study is

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Vol.40-Issue.89-March, 2020

expected to be further extended to the formation of other extension activities which will benefit the students and helpful to develop their personality.

The present study is confined to the Department of Lifelong Learning and Extension of University of Mumbai. The present study is limited to only the extension activities to be conducted by the Department for next three years. It does not include any other activity of the Department.

- The Tools for Data Collection: Questionnaire and personal interview schedule prepared by the Researcher. The departmental published reports, papers presented by the Faculty and other publications of the Departments, ministries, UGC and state agencies are the main sources for data to utilize for research study.
- Geographical area of Research: Raigad, Ratnagiri and Sindhudurg Districts in Maharashtra State
- Proposed Sampling: Sixty Degree Colleges affiliated to University of Mumbai having Extension Work Activities. One Hundred Degree College Teachers and 4,000 student of Degree colleges. Students from Traditional and Professional Degree courses including B.Ed. Engineering, Pharmacy, Management and Law discipline.

FINDINGS IN BRIEF

Every year students are enrolling in extension work activities conducted by the Universities. For this enrollment colleges have to submit registration documents including list of students and relevant data giving details about the overall participation of the students. The colleges have to submit their term reports of the activities conducted at college and community level. This documentation is necessary to highlight the picture of the society, their problems and awareness efforts of the colleges with the help of students. All these activities are monitored by the experience teachers deputed by the University. Eventually they also submit their report on the basis of which students are given the benefit of annual 10 grace marks for their final examination. This entire process needs documentation and paper work. But now paper work is less as most of the data is being invited online by the system. Due to this students may have responded that there is no personal spending for documentation which is the positive impact of extension work as compared to earlier. Since these activities need to create awareness about many existed issues in the society, they need to search and read as much data and submit it in terms of reports writing throughout the year. It may have affected that their reading and writing skills are improved due to extension work. That may have offered them opportunities to progress academically. Hence they may have made best use of their academic time for their career development. It can be said that their study habits are developed and besides reading and writing many other skills are improved such as concentration, positive attitude, patience, attentiveness, public relation and study habits. This is the real positive impact as expected by the University stated in their objectives while implementing extension work activities for the benefit of the students. So it is not the punishment to anybody but it is the reward to everybody who is associated to extension work. So when it was asked through the potential challenge measurement statements**,** students responded optimistically that the extension work activities have impacted positively and remarkably. Thus extension work has the positive impact on rural students of district places.

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STRATEGIC PERSPECTIVE OF INDIA'S NORTH WEST BORDER

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INTRODUCTION

India has been invaded several times, subjugated, and ruled for long periods by alien conquerors and she attained independence after a long struggle and great sacrifices. However, the sub-continent was partitioned before independence was granted, due to dissensions amongst different ethnic groups. Even after the attainment of independence, the country had to fight four major wars that were thrust upon it, in order to protect her integrity. Although the country is wedded to the concept of 'Panchsheel', the five principles of peaceful co-existence, there is no guarantee that others, particularly the potential adversaries, would reciprocate by adhering to this concept, as has been proved in the past. Challenges to India's border management continue and will persist in the future also. In this context, it is pertinent to comprehend the reasons for its subjugation in the past and will help to avoid repetition of past mistakes as well as to acquire and maintain such all-round strength as would enable a fitting reply to be given to any aggressors. 1

Five of the six states in South Asia have borders with India, and this has resulted in inevitable complications since all the states are in their infancy and in several cases the boundaries are not yet firmly settled. India, which looms large as the centre piece shares ethnic religious and cultural affinities with all its neighbours. In times of conflict in neighbouring countries, this becomes a source of acute tension. A spill over crisis across the borders is not uncommon. North – East India is in a strategically vulnerable geographical situation and is surrounded by countries like China, Myanmar, Bhutan and Bangladesh from three sides. It is linked with the rest of the country by a narrow corridor (20 km wide Siliguri neck). In the case of the North- East, terrorism arises from a strong feeling of alienation from the mainstream of Northern India plus a conviction, which the central government should be more active in North- eastern affairs.

Pakistan sponsored terrorism targets India's democracy and secular character. The Goal of Pakistan promoted border terrorism is to affect India's national Integrity. The Secessionist movements in Kashmir and the North- East aimed at independence from the Indian union. Punjab militancy also aimed at disintegration from India and establishment of independent Khalistan. So, it is not only J&K that Pakistan is aiming at, but the larger design of Pakistan is to ultimately work for the disintegration of India through Promotion of terrorism. Towards this objective the ISI is fully supporting various Secessionist groups within India and outside.2

AIM OF THE PAPER

India is a large country with myriad of problems affecting its security internally as well as externally. India maintains large Defence Forces to deal with external threats. The Defence forces which also have nuclear capability are strong enough to deal with hostilities from enemy and give a befitting reply. While defence forces fight the enemy during hostilities, there are peace time threats from across the borders viz infiltration of terrorists to create internal disturbances, smuggling of contraband including drugs and counterfeit currency. In this context, the aim of the paper is to assess prevailing sense of security in the mind of the border area population and to find limitations for deployment of forces on the border area permanently.

HYPOTHESIS

1 The senses of security in the mind of the people have been affected due to the frequent violence in the border area

2 Methodologies

1. The main aim of the present study is to have overall perspectives about national security with a special focus various difficulties in border management. Against such background, the present work followed completely analytical approaches and focuses to qualitative facts for which the induction and deduction methods are followed; based on literature survey available in different printed sources. Primary and secondary data have been collected and used from different magazines, internet, research journals, including government data.

In the North-West, the entry into India was from Afghanistan and most of the invasions took place from this side, even after India gained independence. India shares its land borders with seven nation-states viz. Pakistan, Afghanistan, China, Bhutan, Nepal, Myanmar and Bangladesh. Amongst these nation-states the Pakistan and China have raised the border dispute at North West border province at Jammu and Kashmir. Since the last sixty – nine years Pakistan has not been considering Jammu and Kashmir as an integral part of India and claiming over the territory. Moreover, Pakistan ceded a portion of Jammu and Kashmir to China which was occupied by Pakistan in 1948. Thus, China has been claiming over this territory along with Aksai chin which has been the part of Jammu and Kashmir. The roots of these disputes are found in the history of the merger agreement of Jammu and Kashmir with India. For Pakistan and china the geo-strategic significance of India's north-west border province i.e. Jammu and Kashmir is that if this province adjoins their territory they would be in very strategic position against the India. For Pakistan, Kashmir has contiguous borders with China (Sinkiang), Afghanistan and the Central Asian Republic of Tajikistan (earlier USSR), its inclusion into Pakistan would strengthen it geopolitically. For China, it provides a strategic land link between Sinkiang, Tibet and Pakistan. Therefore, the North West borders of India and the entire northeast region have been always remained a cause of tensions between India and her immediate neighbours, Pakistan, Bangladesh and China. Various measures have been taken so far by India to resolve this issue. Unfortunately, peace is elusive in this region and gravity of this issue multiplied over the years which is a cause of great concern for India. 3

India and Pakistan are two asymmetric and inappropriately hyphenated entities of South Asia which came into existence in August 1947 when the British granted them independence after a prolonged colonial rule of 150 years. Over the past seven decades, while India developed into a sub-continental power, a stable and mature democracy, a secular nation comprising many religions, castes, languages, ethnicities and cultures; Pakistan continues to wander in search of its political identity, has been predominantly ruled by military dictators with intermittent democratic sojourns, has developed into a hotbed of international terror and Jihadist and is regarded universally as a 'failed state'. However, the three salient assets of Pakistan are its strategic geo-political position, its pre-eminent Muslim identity and her friendship with China, mainly aimed at to checkmate India.

China and Pakistan needs no introduction in terms of the major stake holder in context of Indian national security when it comes to safeguarding our western borders. China and Pakistan are not exactly neighbors as they don't share common border. However currently due to POK they share common land border. Neither the notorious relationship between the two nor the malicious intensions are hidden from anyone in the world. The PRC has provided intense economic, military and technical assistance to Pakistan and each considers the other, a close strategic ally. There diplomatic relations were established in 1950, Scientific and technical co-operation began in 1963, active military assistance in 1966, a strategic alliance was formed in 1972 and economic co-operation began in 1979. Currently China has become Pakistan's largest supplier of arms and its third-largest trading partner.

The dangerous combination which they form grew even bleak when it comes to a joint military technology ventures. China continues to be Pakistan's strongest ally. Their relationship became very close after Sino-Indian war of 1962. Pakistan ceded to China, 5,180 Sq. Km of land in Karakoram region of north Kashmir which actually belongs to India. In return, China began to give economic and military assistance. After being dismembered in 1971 Pakistan forged a formal strategic alliance with China in 1972. In 1978 Chinese operationalised the Karakorum highway linking northern Pakistan with western China. China later became Pakistan's largest arms supplier and third largest trading partner. While China supports Pakistan on Kashmir, Pakistan in turn supports China on Tibet, Taiwan and Xinjiang. Pakistan also acts as a link between China and the Muslim world. 4

The Kashmir Obsession

The British Indian Independence Act passed on June 3, 1947 contemplated partition of British India in two sovereign states, India and Pakistan on the basis of religion with Muslim majority regions joining Pakistan and others joining India; famously called 'the Two-Nation Theory'. This, however, did not apply to the 565 Princely States which could join either India or Pakistan or remain independent, subject to some conditions. The decision was entirely the prerogative of the King of the respective

Princely State, who was its head. It is relevant here to highlight that the religion of the majority of its population was of no consequence in their case, since the ‘two-nation theory’ did not apply to the erstwhile Princely States. A total of 561 Princely States acceded either to India or to Pakistan. Three States, Manavdar, Mangrol and Junagarh, acceded likewise around August 1947. As result of police action in the wake of wake of deteriorating law and order situation, Hyderabad was merged with India. State of Jammu and Kashmir under the reign of Maharajah Hari Singh did not accede to either of the new nations. The Maharajah sent a ‘stand-still agreement’ to both India and Pakistan, which Pakistan promptly signed.

Pakistan launched a naked attack on Kashmir valley through Murrie- Domel- Uri- Baramulla Road on October 22, 1947 using mercenaries from its Northwest Province under the garb of popular resurrection. When the raiders were about to reach outskirts of Srinagar, Maharaja Hari Singh urged by popular leader Sheikh Abdulla approached India with an offer to accede to the Indian Union and requested to send the Indian Army to push back the aggression. The State of Jammu and Kashmir, as it existed before August 15, 1947, acceded to India on October 26 and the Indian Army was inducted on October 27. The operations to expel the aggression were undertaken in right earnest. Just when the Pakistani invaders were expelled from two third of the territory of J & K State intruded by them, India took the dispute to the United Nations in December 1947 and a resolution for Cease-fire was accepted by both countries, which had three clauses; one, the opposing armies to cease fire from January 01, 1949; two, Pakistan to withdraw all military forces from the State of Jammu and Kashmir with immediate effect and Indian forces required for security of the State to be retained and three, a plebiscite to be held to determine the future status of various regions. As India contested, Pakistan was in illegal occupation of one third of the total area of the State at that time. Pakistan did not implement the Second Clause and, on the other hand, further inducted additional forces in the area under occupation. The implementation of the Third Clause, which was contingent on the completion of the Second Clause, was therefore not undertaken. Pakistan continued to claim that Jammu and Kashmir in its territory is part of Pakistan on the basis of the religion of the majority of its population. It is a blatant fallacy and distortion of legality since the ‘Two-Nation Theory’ based on the religious divide did not apply to the erstwhile Princely States.5

The obsession to fully merge the Indian State of Jammu and Kashmir in Pakistan at any cost has plagued both the polity and the military in Pakistan for last seven decades. Possession of entire state of Kashmir has been the ‘one point agenda’ of all Pakistani governments, be it civil or military, to capture power and a sure instrument to incite hatred of the populace against India.

Change of Strategy

Pakistan initiated two wars in 1947 and 1965 with India to unsuccessfully wrest the control of Kashmir. Both ended in near stalemate clearly in India’s favour. In the wake of an intense popular struggle in the eastern part of Pakistan to secure autonomy from the repressive regime in the their western region and recognition of their cultural identity, Pakistan waged the third war with India in Dec 1971 which resulted in a decisive defeat of its Armed Forces and second partition of the country. Its eastern wing seceded from Pakistan and a new state of Bangladesh was born. This grievous indignity and affront infuriated the Pakistan Army. It blamed India for being the cause behind the Bengali uprising and pledged to avenge the ignominious defeat.

Aware of the combat superiority of its adversary, Pakistan Army resolved not to travel the path of conventional war again, as also decided to prevent the Indian Army from effectively utilising its armed prowess. The Army hierarchy devised a two pronged strategy of waging a proxy war against India on one hand and developing nuclear arsenal to deter India from using its conventional supremacy against them on the other. It must be said to the credit of Pakistan that they systematically attained their goal during the 70s and 80s of the last century. With the help of China and North Korea, Pakistan developed nuclear capability through combination of subterfuge, intrigue and thievery. It also lodged an effective proxy war in Kashmir by appealing to and aiding the religious synonymy of the fundamentalist elements.

Pakistan was greatly helped in this endeavour by a stroke of luck which came their way. When Russia invaded Afghanistan in 1979, America sought the help of Pakistan to wage a proxy war to drive

Russians out and accorded the latter a frontline status. Pakistan cornered huge quantities of arms and ammunition in the process. The Inter Service Agency (ISI) of Pakistan gained valuable experience in the conduct of proxy war and became a formidable intelligence institution. It handled both the mercenary human resources and the weapons wherewithal during their spearheading of operations in Afghanistan. This was to prove a great asset to the ISI during its subsequent proxy war intervention in Kashmir.6

Fuelling of Militancy in Kashmir by Pakistan

The rise of militancy primarily in the Kashmir Valley was a systematic and gradual process totally engineered by the ISI under the directions of Pakistan Army. Unfortunately, it was greatly helped from time to time by corrupt and inefficient State Governments in J & K and by indecisive Central Government at Delhi. Jammu and Kashmir Liberation Front (JKLF), which aimed at liberating both parts of J & K under Pakistan and India, a mission which could never be acceptable to Pakistan, was formed in 1965 by Amanulla Khan, Maqbul Bhat, Dr Farukh Haider Latif Khan and Hashim Qureshi. The ISI contacted Amanulla Khan, who was in England and brought him to Pakistan on December 15, 1986. A plan to build the 'Azadi' movement in J & K was hatched. July 31, 1988 is its official date of commencement. Pakistan supported it wholeheartedly with funding, arms and ammunition and tactical guidance provided by the ISI. Soon a wave of demonstrations, violence and killings rocked the valley. On December 8, 1989 Dr Rubia Sayeed, the daughter of the then Home Minister of India, Mufti Mohd Sayeed was abducted by the militants. She was returned on December 13, when the Government agreed to release five JKLF terrorists in its custody. This was a watershed in the 'Azadi' movement. Thereafter, the frequency and intensity of violent incidents increased appreciably. A coordinated move to exterminate the Hindu Pandit families who were original residents of Kashmir was undertaken under the instructions of ISI. By June 1990, 58000 families had to flee and took shelter in Jammu and Delhi.7

Briefly, the Azadi movement passed through three phases between 1989 and 1998. In the first phase during 1988 and 1991, it was mainly restricted to the sons of the soil who were inspired by the chimera of 'Azadi' spearheaded by the JKLF. Though their Pakistani mentors were against their mission of an independent Kashmir, the ISI covertly supported them mainly with a view to plant seeds of discontent. Having achieved it, the ISI undertook the second phase during which they inducted militants hailing from POK belonging to the organisations like Hizbul Mujahideen (HUM). In 1993, Pakistan Army took in hand the third phase in which they inducted militants from Pakistan and foreign militants who were set free after the end of the war in Afghanistan. A host of foreign militant organisations such as Al-Jehad, Ikhwan-ul-musalmeen, Harkat-ul-mujahideen, Jamait-ul-mujahideen, and Al-barq created and financed by the ISI flooded the Kashmir Valley. Four major terrorist acts supported by the ISI took place during this period: the siege of Hazratbal mosque, assassination of Mirwaiz Kazi, abduction of foreign trekkers and destruction of Chrar-e Sharif in the year 1998.

Cross-border Terrorism as Instrument of National Policy

Cross border terrorism soon became an instrument of national policy of Pakistan. The Simla Agreement forbade any crossing of the Line of Control (LOC) by armed forces of both sides. The ISI sent hoards of terrorists across the LOC and continues to send even today as a part of the overall aim of 'decimating India with thousand cuts'. India was prevented from undertaking any major offensive operation because of the overestimated threat of use of nuclear weapon. In May 1998, India carried out a nuclear test and declared that it had acquired nuclear capability. Pakistan officially followed suit after a fortnight. In June 1999, Indian Army combated a major infiltration of over 140 kilometres of the LOC in Kargil. Pakistan asserted that it was an act of freedom fighters in search of 'Azadi', but soon the participation of the Pakistan Army became crystal clear. The Indian Army successfully undertook operations to expel the incursion. The Pakistan Army had to withdraw behind the LOC unconditionally under international pressure. It was its second major defeat after 1971. A comparatively effective period of cease fire between the two armies on the LOC took place between 2003 and 2008, which ended when Pakistan planned and executed a terrorist attack on Mumbai on November 26, 2008, famously known as 26/11.8

Prime Terrorist Organisations

Pakistan continues to pursue its policy of cross-border terrorism without any refrain. Two prime terrorist organisations aided and abetted by the Pakistan Army which overtly operate in J & K are Lashkar-e Taibba (LET) and Jaish-e- Mohammad (JEM). These are led by Hafeez Saeed and Azhar

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Vol.40-Issue.89-March, 2020

Masood respectively. Deplorably, the two militant leaders in the Indian custody had to be released as barter for hostages, Hafeez Saeed in 1994 and Azar Masood s 1999. While Hafeez Saeed has been declared as 'International Terrorist' by the UN in 2004, India's efforts to have Azhar Masood declared likewise are frustrated due to the intervention of China in the US Security Council. The LET was behind the attack on Mumbai in 2008 and involvement of the ISI and Pakistan Army in this attack is established beyond doubt. India has provided irrefutable proof of the involvement of Pakistan Army in the terrorist attack. Pakistan Army engineered a dastardly attack on December 13, 2001 on the Indian Parliament after which both countries were on the brink of a nuclear war.

Pakistan covertly supports a conglomeration of separatist organisations, the Hurriyat Conference in the Kashmir valley. Their activities are guided by the GHQ in Islamabad. There has been a spurt of terrorist attacks planned and executed by the ISI in J & K in the recent past: attack in Gurdaspur, attack on the Pathankot airfield, attack on 12 Infantry Brigade in Uri and the recent attack on army family quarters in Nag rota in the state of J& K. These have all been carried out by the two prime terrorist organisations with the connivance and under the direction of the Pakistan Army.9

Pakistan Army Rules Supreme

The decisions on important foreign policy matters in Pakistan rest in the hands of the Pakistan Army, in particular with the Chief of Army Staff. He decides the fate of all peace moves, whether at the Government level or at Track II level in respect of Jammu and Kashmir. Likewise, he plans and executes the escalation of violence in the Kashmir valley. The National Security Advisor (NSA) in Pakistan is generally an Army Veteran, who functions under the directions of the Army Chief and reports to him. It is a paradox in the polity of Pakistan that while the Prime Minister appoints the Army Chief, including decision on supersession of senior aspirants, it is the Army Chief who soon wrests the control in his hands and dictates how the Kashmir issue is to be handled. The Director General of the powerful ISI is the Army Chief's man and functions under his directions. This is the crux of the role of the Pakistan Army in J & K. 10

It must be carefully understood that Pakistan's ability to sustain Proxy War in Jammu and Kashmir is strongly dependent on periodically inserting hardcore, non indigenous mercenaries because native Kashmiri elements have become non-cooperative with the Indian State and inactive. The new terrorists from the training camps located in Pakistan along the LOC have to be inducted into Jammu and Kashmir, along with some seniors, to compensate for losses/casualties. The Pakistan Army thinks that it's demonstrated nuclear and missile capability has ensured it against a retaliatory response from the Indian Army due to the fears of the Indian leadership that retaliation could degenerate into a nuclear warfare Although there have been three democratically elected governments in Jammu and Kashmir since 2002 but they have failed to influence the will of the masses in Kashmir Valley to shun violence and join the national main stream.

The civil administration of Jammu and Kashmir has invariably been ineffective and corrupt. There is a lack of direction and consistency in administering the state. It was evident that some responsible sections of the society like police, judiciary and local civil administration were subverted in the Kashmir Valley leading to breakdown of civil administration. The state police of Jammu and Kashmir find it difficult to maintain law and order. Besides subversion, the manning, training and equipping of the police are inadequate to fight proxy war and these aspects hamper their efficient functioning. Many valley based journalists have yielded to the threats from the Jihadists to become mouth piece of antinational forces. The big national media houses normally lack their presence in Jammu and Kashmir due to security reasons and lack of local support. Some blindly follow subverted media persons there by contributing immensely to disinformation campaign. Obsessed as they are being mouth piece of terrorists, taking lop sided view, they don't even notice killings of innocents. Writing against Indian Army is their main agenda. They have no time for bad governance, corruption (90 % of govt money is siphoned off), ill treatment of common citizens, empowerment of women, issues that dominate national media. Newspapers based in Ladakh & Jammu i.e. out of Kashmir valley, are very fair in reporting of incidences .It has repeatedly been proved that 98 % of so called Human Right violations are false. Still no action is taken against politicians, NGO's, Media for wrong reporting and Human Rights organizations with the international agencies supporting them.11

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

CONCLUSION

Any further realignment of borders of India is subject to resolution of Jammu & Kashmir problem with Pakistan and the border issues with China. There are several complexities along borders of India both in terms of terrain and prevailing operational environment. The borders lie across all type of terrain - mountain, plains, deserts, reverie and jungle with varying degree of habitation and ethnic mix residing as close as on the boundary itself and having family relations across the border. Except for the states on western frontiers, most of the Border States are underdeveloped and physically isolated from main land in various degrees because of relatively poor communication and transport infrastructure. The North Eastern states in particular are culturally very different from the core of the Indian union. The border population feels alienated because of slow economic development. Such conditions prevailing on borders with ethnic ties across fence makes these borders porous.

Complexity of managing Indo – Pakistan and Bangladesh borders further gets aggravated because of their mixed nature viz Line of Control, well demarcated and disputed Borders. The strategy to manage a particular border therefore has to vary according to its nature. Some borders have therefore more militaristic management systems in place compared to others which are soft borders. Nature of problems and crimes on different borders also vary drastically. The problem of insurgency in J&K and attempts by Pakistan to facilitate infiltration of militants into India makes the LOC and IB in Jammu Sector one of the most dangerous borders with daily exchange of heavy fire. Borders in Punjab, Rajasthan and Gujarat on the other hand are prone to smuggling of drugs. The borders in the East and North East are prone to cattle smuggling and other petty crimes. The border management practices need to be adapted to suit varied in nature.

The China-Pakistan strategic relation does no longer concentrated to local or regional but it could be understood at international strategic perspective. Pakistan plays a crucial role by interlocking geopolitical relation with US, China, Russia, India and the Arab countries. And since Islamic terrorism has become a global security concern, the role of Pakistan does no longer sees as a major factor in response to terrorism. The reciprocal need between China and Pakistan has strengthened more ties. Thus, the China-Pakistan ties have been a major obsession with India's policy maker. And because of India's aspiration for regional security provider, China with better achievement in her economic and strategic mammoth against India and Pakistan's core foreign policy focus on India has created a critical strategic triangle. As the two Asian giants- India and China rise to become economic powerhouse and with reticence to become a global power, India is liable to be impacted by the strong bilateral ties of Sino-Pakistan in a long run.

In conclusion there are two points to suggest for better relationship with these three complicated neighbourhood. Firstly, India sees China and Pakistan as a foe as well as a needed friend. To rise as a regional power and to place at a global power, India needs a good relationship with Pakistan and China. Good neighbourhood is required to maintain a stable and strong country. Secondly, China, India and Pakistan has to look beyond their capabilities in defence might, and concentrate in development and economic aspects. There is possibility to maintain a stable neighbourhood if trade and commerce were encourage. But the leaders need a lot of trust and guts to initiate this possibility.

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A STUDY ON AWARENESS AND CUSTOMER PREFERENCE OF FINTECH CONCERNING COVID-19 IN MUMBAI

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ABSTRACT
This research paper is there to analyze and interpret the awareness of FinTech products and services among the customers and also the customer preference of FinTech products and how likely are people seeing sectors going to implement FinTech in the near future. The analysis was done on the basis of primary data acquired through questionnaire. The responses were analyzed through Anova and an appropriate conclusion is constructed stating the awareness levels and the scope of opportunity in various sectors.

Keywords: Fintech, Covid-19, Level of awareness, Opportunities, Perception

INTRODUCTION
Financial Technology abbreviated as Fintech is the term coined with the combination of Financial Services and Information Technology. FinTech has become an encyclopedic term in the world of finance which is a blend of both finance and technology. Fintech constructs its interpretation as the use of technology or digitalization to transform and boost the business model of a company. Mumbai been known as the Economic/ Financial /Commercial /Entertainment capital of India., has seen many fintech start-ups booms to their prime state.

Due to the devastating impact of the Novel Covid-19 on the economy of this world, the Fintech opportunities are set to enlarge itself to cope up to the needs of the companies as well as the individuals. The paradigm shift of Fintech will be seen in the later stages after the pandemic has subsided. As for now, many corporates are operating with the help of Fintech running in their businesses.

LITERATURE REVIEW
1. In the article of "Financial inclusion and Fintech during COVID 19 crisis: Policy solutions", Peterson K. Ozili listed down 7 policies to act upon to be able to include financial inclusion into the masses. He also believed it to using those policies during the Covid 19 situation can get substantially reduce down the burden and push the economy into the fintech world.
2. In this article of "Enhancing the security of fintech applications with map based graphical password authentication", the authors, Weizhi Meng, Liqiu Zhu, Wenjuan Li, Jinguang Han and Yan Li have expressed their views on the enhancement of traditional textual passwords to a much secure graphical password era in this fintech world. Graphical passwords seem to improve more of the security concerns that were previously found in the textual passwords and also to terminate the multiple password interference phenomena of the humans. GP such as RouteMap is the type been inferred against the other types of GP's like PassMap and GeoPass. It was found that RouteMap made sure people were achieving better results into remembering passwords and thus it helped as to shape the security enhancements needed for the FinTech environment. Further the author proposed for the research to be analyzed to figure out the loopholes and improve upon it on a larger scale.
3. In the article of "Fintech: Ecosystem, business models, investment decisions and challenges" by In Lee and Yong Jae Shin, they discussed about the evolution of Fintech as a whole and how this important paradigm shift can be a challenge for the non-fintech adopted companies as a whole. The study presented various models and approaches for analyzing the sector and also the challenges which the sector is currently facing and also discussed about the FinTech ecosystem as a whole.
4. In the paper named "Fintech and Banking: What do we know ?" by Anjan V. Thakor ,the paper targeted four important questions to acknowledge the Fintech vs Banking era and the author explained each question with the industry perceptive bundled with his own point of view giving us a wider picture to examine the situation in general. The author also pointed out that Fintech

companies as a whole are not able to deliver as much profitable returns as banks provide when compared and stressed on the point that FinTech too had a long way ahead to be able to fully engulf the market.

5. In the article "Fintech: The impact on consumers and regulatory responses" by Julapa Jagtiani and Kose John, have discussed about the growing Fintech environment in the lives of the consumers and how the regulators have to make sure that this new environment doesn't create a major impact or disruptions as a whole.

RESEARCH METHODOLOGY

SCOPE OF THE STUDY
The geographical area of study was confined to the city of Mumbai.

OBJECTIVES
1. To study about the awareness of fintech in the Mumbai region
2. To understand the customer preference of the people towards fintech
3. To frame a pattern of growth for Fintech advancements with respect to the Covid-19 pandemic
4. To understand the paradigm shift regarding Fintech due to Covid-19 scenario in Mumbai

HYPOTHESIS
H01: There is no significant difference in the level of awareness of customers for Fintech post Covid-19

H11: There is a significant difference in the level of awareness of customers for Fintech post Covid-19

H02: There is no significant difference in the level of customer preference for the application of FinTech across various sectors

H12: There is a significant difference in the level of customer preference for the application of FinTech across various sectors

VARIABLE OF THE STUDY
Dependent variable – Customer preference, Awareness of Fintech

Independent variable – Region (Mumbai)

TECHNIQUES OF DATA COLLECTION
The data was collected through primary and secondary sources. The sufficient and relevant literature is available pertaining to the Fintech industry in Mumbai. The Primary data was collected through Questionnaire and responses were analyzed for the research. The secondary data was collected through books, journals and information available on the internet was referred and considered for the study.

Size of Sample – The survey was conducted randomly amongst 100 respondents from Mumbai City. Respondents were of different age groups and having different occupations.

TECHNIQUES OF SELECTION:
Random Sampling.

Statistical Tools – The researcher has selected Anova test for testing the hypothesis. The researcher has used Anova test as there are one independent variable and one dependent variable in the test.

LIMITATIONS OF THE STUDY
Utmost care was taken under selection of topic planning of study methods and technique data processing and analysis. Despite this the study has following limitations –

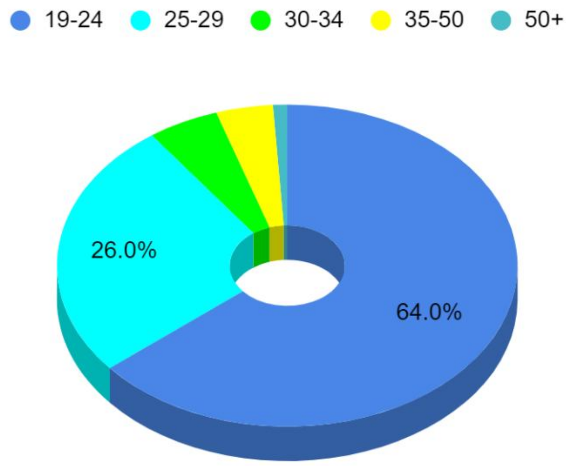
1. Availability of adequate public data in the area of research was one of the limitations
2. The respondents can be biased
3. The study was confined to the area of Mumbai

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

DATA INTERPRETATION

Q.1 Age Group

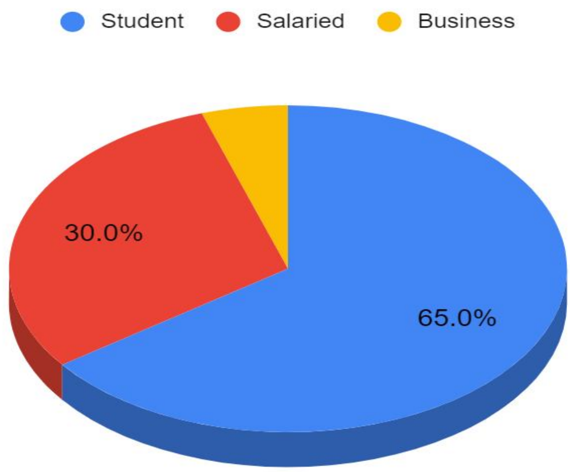
Age Group	Frequency
Below 18	0
19-24	64
25-29	26
30-34	5
35-50	4
50+	1



Most of the respondents are in the range of 19-24 followed by 25-29 with 64 and 26 respondents respectively. 30-34 consists of 5 respondents and 35-50 hold only 4 respondents.

Q.2 Occupation

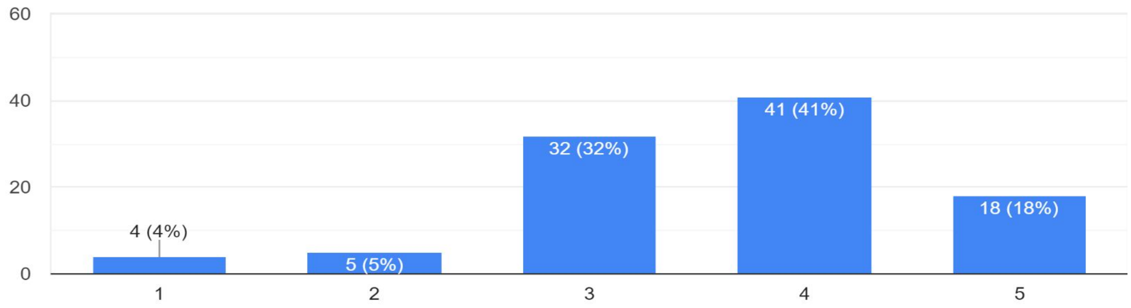
Occupation	Frequency
Student	65
Salaried	30
Business	5
	100



Most of the respondents are Students followed by Salaried and the in business.65 are students, 30 are salaried and only 5 of them are into business

Q.3 How familiar are you with FinTech?

Range	Total
5	18
4	41
3	32
2	5
1	4
	100



18 people are most familiar with FinTech followed by 41 just very familiar, 32 people with moderately familiar, 5 people being not much familiar with FinTech and only 1 person who doesn't know much about FinTech.

Q.4 What modes of FinTech are you aware about?

Range	Mobile Payments	Insurance	Cryptocurrency	Stock trading	Digital Lending	Virtual Assistant	Budgeting apps
Extremely Aware	68	18	14	13	17	48	22
Very Aware	19	24	18	23	37	29	33
Moderate Aware	10	38	30	28	23	12	17
Slightly Aware	2	12	20	23	15	7	17
Not at all Aware	1	8	18	13	8	4	11
	100	100	100	100	100	100	100

	Mobile Payments	Insurance	Cryptocurrency	Stock trading	Digital Lending	Virtual Assistant	Budgeting apps
Mean	4.51	3.32	2.9	3	3.4	4.1	3.38
Standard Deviation	0.83	1.14	1.29	1.23	1.17	1.11	1.30

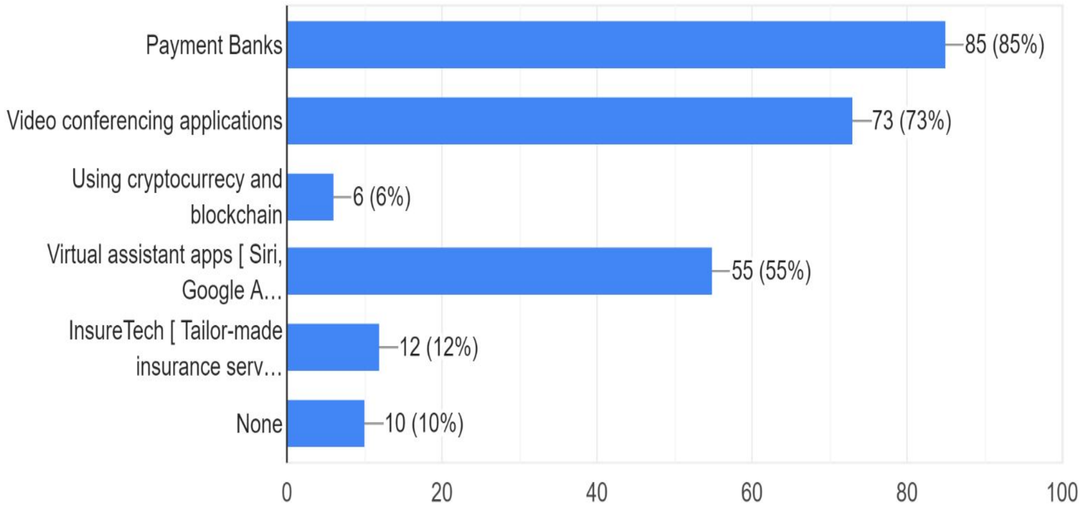
In the above graph, we can see that most of the people are familiar with various FinTech products and only a few of them haven't heard of most of the products. Mobile payments being the most famous of them all and cryptocurrency being the least known product.

Q.5 Due to Covid-19 lockdown scenario, what facilities of FinTech are you using?

Particulars	Frequency
Payment Banks	85
Video conferencing	73
Cryptocurrency	6
Virtual assistant	55

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

InsureTech	12
None	10



People in lockdown are using payments banks the most and there are 10 people which don't use any of the FinTech products. 85 people use payment banks, 73 people use video conferencing, 6 people use cryptocurrency, 55 people use virtual assistant and 12 people use InsureTech.

Q.6 How frequently are you using these products in a month?

Range	Payment Bank	Video Conferencing	Cryptocurrency	Virtual assistant	Insurtech
8-10	36	40	1	14	2
6-8	21	22	9	24	12
4-6	26	18	9	26	12
2-4	9	11	17	20	22
0-2	8	9	64	16	52
	100	100	100	100	100

	Payment Banks	Video conferencing	Cryptocurrency	Virtual assistant	InsureTech
Mean	1.27	1.33	1.04	1.29	1.89
Standard Deviation	3.66	3.73	1.66	3	1.14

People mostly use Payment banks and video conferencing the most with 8-10 times a month whereas cryptocurrency is the least used with 64 people only use it at 0-2 times a month.

Q.7 What facilities and services are you finding it difficult to use during this Covid-19 pandemic?

Range	Banking	Telecommunication	E-commerce	Tech support	Investment	Remote working
Not at all Difficult	49	53	45	18	19	17
Slightly Difficult	20	18	23	34	28	31
Moderately Difficult	17	15	15	26	30	30
Very Difficult	7	9	11	14	10	15
Extremely Difficult	7	5	6	8	13	7
	100	100	100	100	100	100

	Banking	Telecommunication	E-	Tech	Investment	Remote

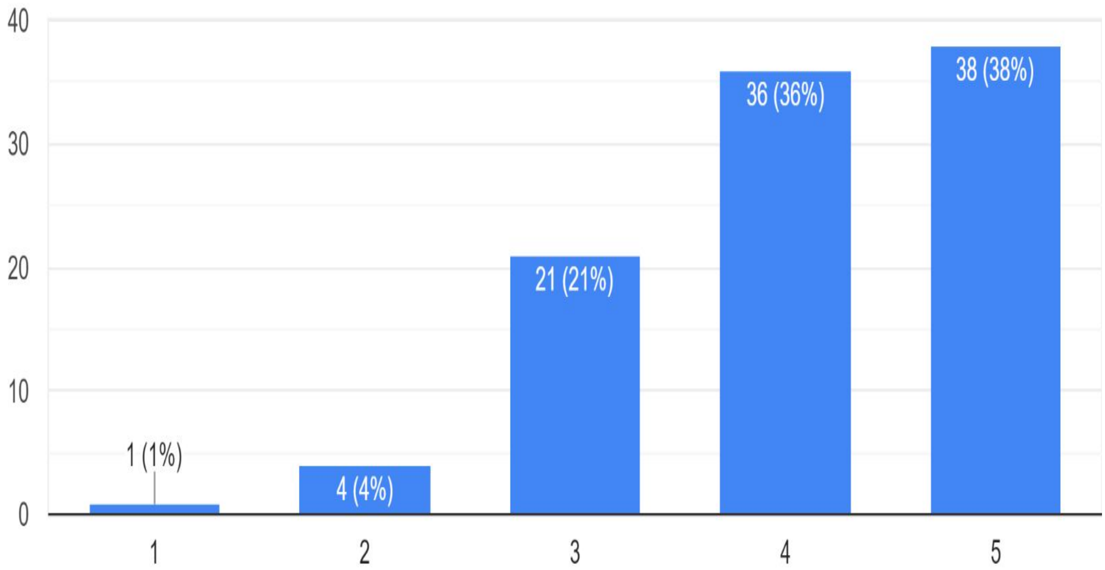
ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

			commerce	support		working
Mean	1.02	4.05	3.9	3.4	3.3	3.36
Standard Deviation	1.26	1.23	1.26	1.17	1.26	1.14

In the above graph, it shows that Banking, telecommunication and E-commerce is the least difficult facility to use during covid-19. Tech support is slightly difficult at 34 respondents and around 30 people are finding it moderately difficult in Investments and Remote working.

Q.8 Do you believe FinTech can accelerate its growth and reach because of Covid-19?

Range	Total
5	38
4	36
3	21
2	4
1	1
	100

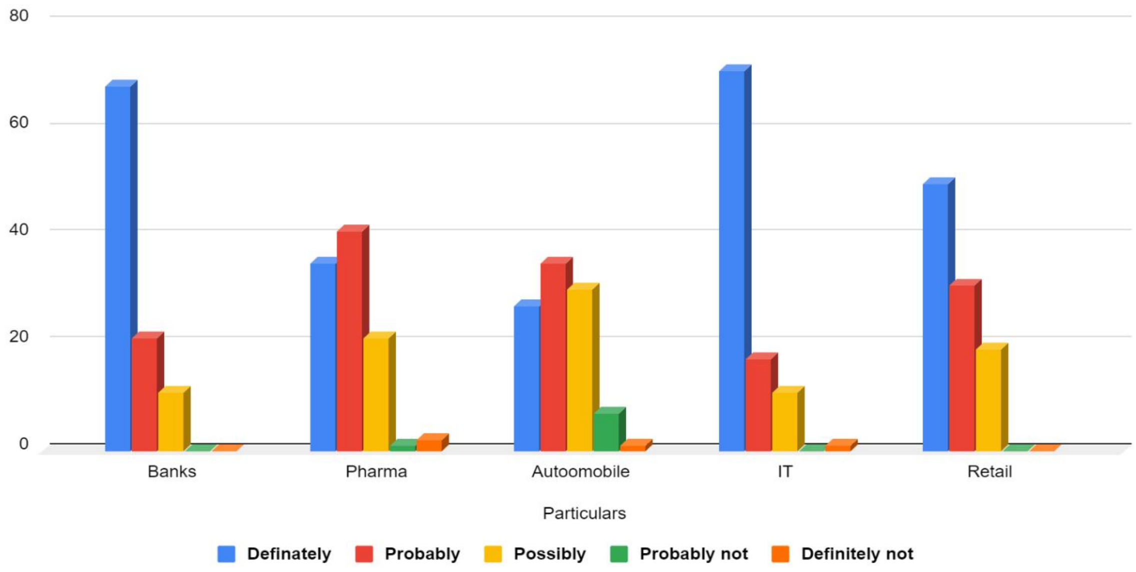


Around 38 people believe that Fintech can accelerate its growth and reach because of Covid-19 whereas only 1 person think that it won't accelerate the growth whereas around 61 people are just in the middle whereas they think it might as well as it might not.

Q.9 What do you think in the near future which sector will implement FinTech the most?

Range	Banks	Pharma	Automobile	IT	Retail
Definitely	68	35	27	71	50
Probably	21	41	35	17	31
Possibly	11	21	30	11	19
Probably not	0	1	7	0	0
Definitely not	0	2	1	1	0
	100	100	100	100	100

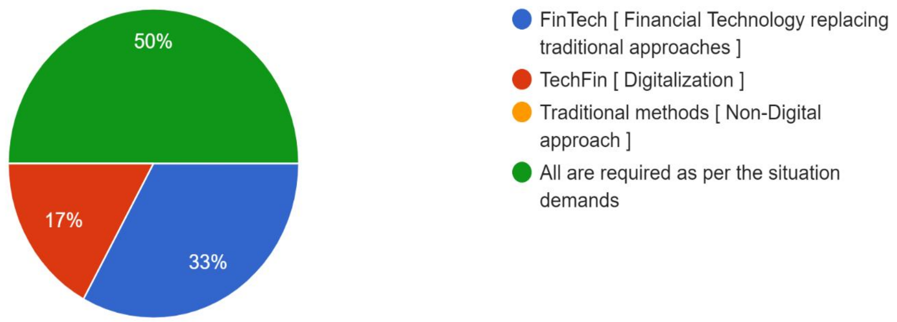
ISSN: 2394-3114
Vol.40-Issue.89-March, 2020



According to the graph, 71 people think that IT will implement FinTech the most and around 68 people think that Banking will implement the most. 2 people think that Pharma won't implement FinTech and 1 in Automobile and 1 in IT think that these wont implement FinTech.

Q.10 What do you prefer the most if told to choose one?

Particulars	**Total**
All are required as per the situation demands	50
FinTech	33
TechFin	17
Traditional methods	0
	100

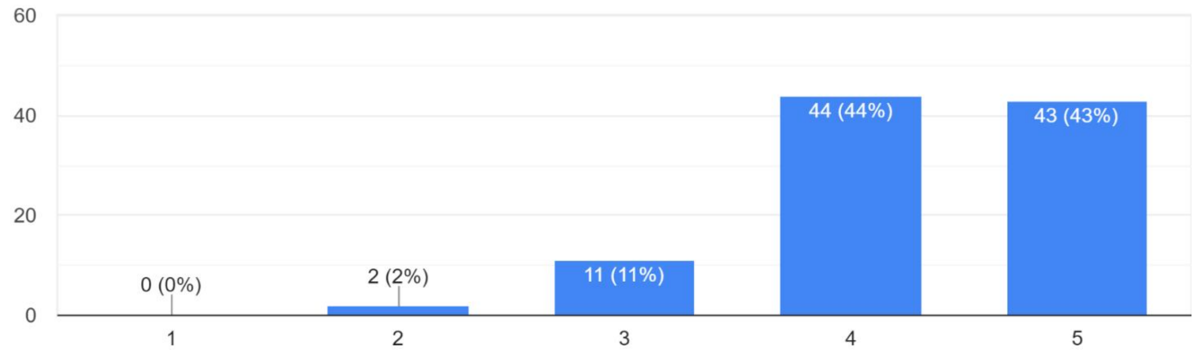


Around 33 people prefer FinTech whereas 17 people prefer TechFin and no one prefers traditional method if told to choose one but around 50 people prefer them all as and when the situation demands.

Q.11 Do you believe FinTech is the future?

Particulars	**Total**
5	43
4	44
3	11
2	2
1	0
	100

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020



Around 43 people think that the FinTech is the future whereas no one thinks that FinTech is not the future. 11 people are just in the middle whereby they can't prefer either of them.

Anova Table no.1

For Awareness

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	204.5171429	6	34.08619	25.12122	4.81545E-27	2.111645
Within Groups	940.31	693	1.356869			
Total	1144.827143	699				

Interpretation
Since the F value is greater than the F critical value, therefore the F test is rejected and thus the null hypothesis is rejected and the alternate hypothesis is accepted.

Conclusion
Since the alternate hypothesis is accepted, therefore there is a significant difference in the awareness level for customers of FinTech during the Covid-19 phase.

Findings
There is a lower level of awareness among the customers regarding FinTech and thus more consideration should be taken in to make sure people are well versed with the products and services of FinTech.

Anova Table no.2

For Customer preference

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	44.628	4	11.157	16.63218	8.45E-13	2.389948
Within Groups	332.05	495	0.670808			
Total	376.678	499				

Interpretation
Since the F value is greater than the F crit value, therefore the F test is rejected and thus the alternate hypothesis is accepted and the null hypothesis is rejected.

Conclusion
Since the alternate hypothesis is accepted and the null hypothesis is rejected, therefore there is a significant difference in the customer preference for the application of FinTech across various sectors.

Findings
Due consideration should be taken to increase the efforts to make people well versed in identifying which sector will implement FinTech the most.

FINDINGS OF THE STUDY

1. It is observed that maximum respondents are in the age group of 19-24 i.e., 64%
2. It is seen that most of the respondents are students followed by salaried and business as occupation
3. Based on the above data interpretation, majority of the respondents are familiar about FinTech
4. It is found that maximum respondents i.e., 85% are using payments banks,73% are using video conferencing application, 55% virtual assistant and only 10% of the respondents are using none of the FinTech products amid the Covid-19 scenario
5. It is seen that maximum respondents i.e., 38% believe that FinTech can accelerate its growth amid Covid-19
6. It is found that maximum respondents i.e., 50% of the respondents prefer FinTech, TechFin as well as traditional methods, 33% FinTech and 17% prefer TechFin
7. It can be seen that 44% respondents believe that FinTech could be the mere future

CONCLUSION

There is a significant difference in the awareness level for customers of FinTech during the Covid-19 phase and also there is a significant difference in the customer preference for the application of FinTech across various sectors. FinTech is still having a step behind in the awareness department therefore impacting the usage of the FinTech. There is scope for improvement but we cannot ignore the fact people do really believe FinTech is the future. TechFin is also providing a help as well as a threat for the FinTech environment but if both of them combined and used according to the situation demands then it will collectively help in the major technological progress for many sectors as a whole to reap the long term objectives and goals for the company as well as the sector and betterment for the economy.

RECOMMENDATION

More awareness among people should be prioritized so that people are on par with the flow of the future. More aware community can help better customized experience and preference for themselves as they will be able to effectively use the products. More emphasis on the user perception regarding growth of FinTech in various sectors should be linearized so they have a clear thought process regarding the sectors.

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IMPACT OF COVID-19 ON DIGITAL MARKETING

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ABSTRACT
As we all know the situation of the countries they are going through and loss which they are facing due to pandemic. Due to such disaster it not only affects the countries people but also the established firms and organizations of the country. Hence to overcome such situation and to maintain the economy of a country all the firms should make the practise of the newly marketing strategy such as DIGITAL MARKETING BUSINESS into practice.

Digital marketing is the platform that each and every organization whether it is MNC, ENTERPRISES, NGO, GOVERNMENT WEBSITE and every sector where I.T is in use. Marketing the product of a particular firm by using advertisement, promoting through social media influencer. To achieve such goal for a particular requires allot of research of trained marketing team, skills, idea about platforms where we can achieve this goal.

After the impact of covid-19 stock prize of firms those where not practicing digital marketing business strategy gone through heavy losses, in order to avoid such crises and balance the economy and revenue of the firms and organization.

To achieve this goal basic necessity is to firstly train the employee and brushing up their skills so they can be in use even in such condition. Digital Marketing is the platform where a particular product can be sold by using a perfect platform and keeping in mind about the people interest, prize of the product, no duplicate, trust of the people, empathy, sympathy.

Over changing, marketers will have to do what they have always done best – adapt. Staying on top of the latest trends, watching the data for insight, and understanding new consumer behaviour will be key in driving successful marketing strategies moving forward.

As mentioned, in-store traffic and demand are falling daily as users stay home in the US and abroad. As this trend grows, in-home online and TV activity will increase and advertisers can reach their target users during this time by investing more heavily in television (traditional or Connected TV), digital, and direct mail advertising over in-store, out-of-home, and physical advertising due to decreases in public foot-traffic.

As the world pushes through this challenging time, compassion in advertising will be critical to ensure that brands remain in positive light. Businesses should be a resource for their employees, consumers, and other key stakeholders. Ensuring that brands take a compassionate approach to advertising will ultimately lead to long-term consumer trust, satisfaction, and loyalty.

As the impact of COVID-19 continues to unfold, brands and agencies need to keep a close eye on the changing consumer behaviour and impacts on individual industries to ask the right questions, ensure they are prepared for any outcomes and find new opportunities. Many advertising platforms has offered digital marketing resources for small and medium sized businesses for those affected by COVID-19.

Keywords- Introduction, Literature review, Decision on the bases of consumer habits, Industry affected, need to shift market and Considerations to be taken, Strategy need to be adopted by the firms with change, Trends need to be adopted, Conclusion, References.

I. INTRODUCTION
Digital marketing will differ from firm to firm depending on the people connected to them from years. Small start-ups may get affected the most during this pandemic, since they may earn on daily basis and brand which they sell may not be such popular as others. In short big MNC can make a huge profit

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Vol.40-Issue.89-March, 2020

through this business strategy. Basic aim of this marketing strategy is to sell or to promote their good through ADDS, social media platform, mailing.

Although no business has been unscathed by the pandemic, those that are suffering most are smaller start-ups that may not have the capital or reserves to stay afloat and companies that relied heavily on face-to-face interactions, like hair and nail salons, clothing stores, and yoga studios. A customed to growth spurred by customer referrals and their stellar service reputations, they have experienced such high revenue losses that their instinctive reaction has been to cut marketing costs instead of exploring new and more effective options. In turn, this knee-jerk reaction has had a detrimental 'trickle' effect on larger B2B companies that serve these smaller businesses. All businesses, from neighboured niche providers to mega-multinationals, can benefit from digital marketing. Customers need what they have to offer as much as ever—what these companies have to do is change the way they reach their audiences. Even if a smaller enterprise doesn't have a Facebook page (and an estimated one in four small business owners don't), it's not too late to join the ranks of the businesses that are thriving online.

HOW TO SHIFT A BUSINESS ONLINE:

Before the pandemic, everyone knew which local business sold the best artisan donuts or handcrafted essential oils in town. Now that these companies have been ordered closed because their industry was deemed nonessential, no one knows which ones are still in business and where they should spend their money. It's time for these affected businesses to make the transition from brick and mortar storefront to a digital provider by speaking to their customers, reviving neglected online assets like their website and social media profiles, and pushing full speed ahead.

The following picture shows the sector affected by covid-19:

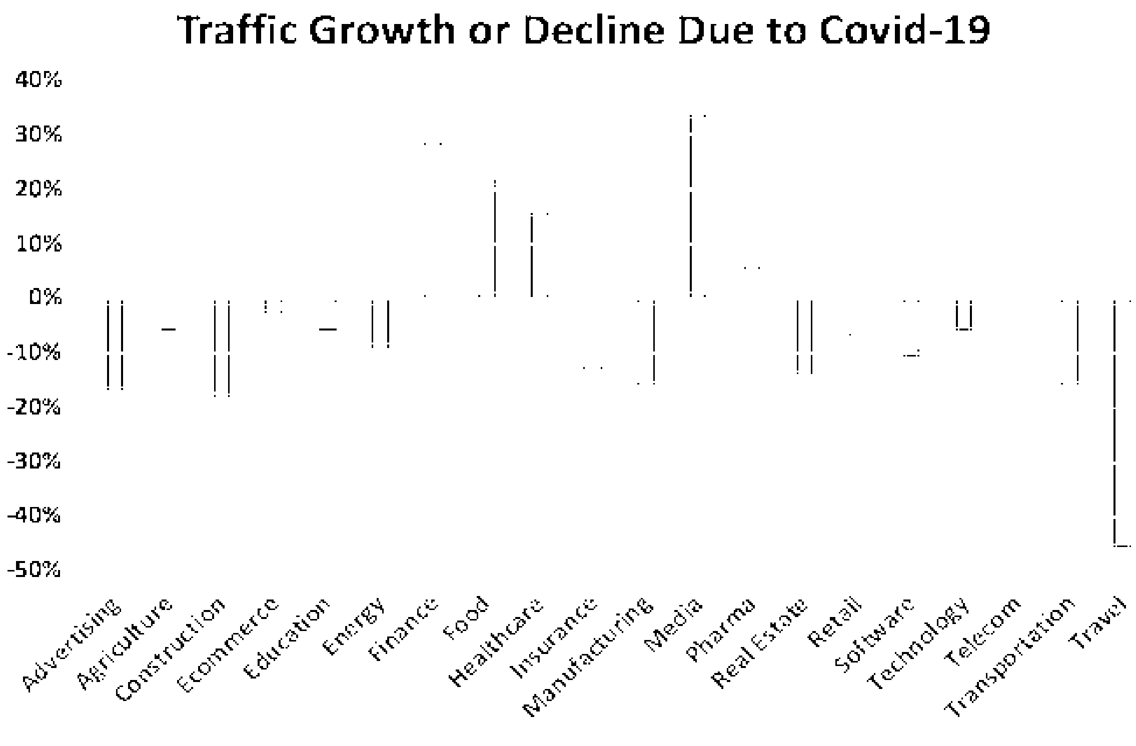

Figure: Above gives us the exact percentage of the industry sectors affected by covid-19.

II. LITERAURE REVIEW

1. According to the survey conducted by News Creed says that maximum percent od company will force move its marketing from remote locations or work from home. The company has to face many challenges in this covid-19 situation. Also, company employee will face problem of marketing team because of working from home. Also, the use project management tools and will increase and a gradual decrease in live conferences and events.

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Vol.40-Issue.89-March, 2020

2. NRF says that most of the people changed their shopping habits by buying goods and product via e-commerce website avoiding going out.
3. eMarketer survey says that 60%-80% off people around the globe has shifted from buying goods online rather than going out. However, it will continue all the further by people in the coming years and going back to normal days of shopping.
4. According to the survey conducted by Global Web Index people are likely to be using the media such as watching news and updates through media apps, listening to music via online stream, watching to online videos, referring books.
5. Amok says that decrease in revenue of adds, direct deals, retails buyers. Also says that most of firms are shifting towards the field of AR AND VIRTUAL REALITY using in coming future products.
6. According to Entertainment Management Association says that covid-19 affected the entertainment industry a big loss. Events company paid a huge loss due to cancellation of seminars, live events, conferences and shows which were schedule in the coming months.

III. DECISION ON THE BASES CONSUMERS HABBITS:

- After the impact of it is necessary for the business firms to take the decision on the basis of consumer habits, brands and agencies which largely unknown, there may be many factors that may help in the decision, decision made are uncertainty may change the global community professionals and personally.
- Industry needs to think below the line of consumers thinking power during such situation which may help to take a crucial decision.
- Since the consumers or customers spend more time during the lockdown, partial increase for “work from home” which may lead to massive increase in demand for online services for providing them products to door step. example: Amazon, Flipkart etc.
- Due to the drastic decline in the economy, Campaigns about people who have significant income, planning for retirement and for small business owners, this may help for sharp result.
- Since economy has decline curve it may lead to sharp decline in the propensity to spend by consumers.
- Advertisers should focus on target audience about their buying habits and help the firms to take decisions.

IV. INDUSTRY AFFECTED, NEED TO SHIFT MARKET AND CONSIDERATIONS

1. HOW INDUSTRY ARE AFFECTED?

As the events says “everything is down” trickle down effects the business participating and business around those events is likely to occur. After major conferences, sporting events, and gatherings events cancelled and travel restrictions are put on and local business trying hard to earn, the business which are related via e-commerce got increases as showed above and business related to people use may go down since people are avoiding going out, working from home and not making any social contact with each other. Industry that depend on supply of chain of product related to import and export may face shipment delay problem.

Understanding the current situation industry need to think about product inventory and future ramifications, which may help in marketing campaigns.

Industry need to take precautions about the employees, product virus free to light in coronavirus situations by following all the rules and measures to deliver virus free products to consumers.

2. SHIFTING OF MARKET

Marketing strategy are changed, brands to needs to be on top by avoiding traffic in shop and providing consumers essential goods and product by analysing the graph of insight, through advertisements, people increasing demand for product by just sitting of home getting avail to them, avoiding duplicate product and providing authenticate and certified product and goods. Investing more in digital advertisements, televisions and mailings promotions due to decreases in foot promotions.

3. CONSIDERATIONS TO BE TAKEN DURING PANDEMIC

> What is your business?

> Is your business e-commerce, motor or brick?

> What is your core target markets?

> How is it affecting consumers buying habits?

> How can you provide importance to customer at time of product buying?

> Is this the opportunity for firm to go beyond or back?

> Is your employee safe and ensure safer experiencing?

V. STRATEGY NEED TO BE ADOPTED BY FIRMS WITH CHANGE:

- **STRATEGY WITH CHANGE**

Everything in digital marketing does not start with strategy it needs to be addressed first.

since there have been tremendous increase in demand for online product and goods by customer, the market needs to modified from the lowest level to top most level one by one.

Agencies need to keep track of the product and customer during this period.

Things to be kept in mind

What are customer needs?

How have their budget changed?

How to achieve good customers and trust?

How to Win:

Having a closer look to customer target products and refining points.

For example: A page on their website directly addressing COVID-19 and how they are helping customers. This should be visible on every page of the site. It should also give an update on any changes to the business.

They need to bring their new messaging strategy to their advertising creatives, their content marketing and email marketing teams, and TV and radio.

They need to run a campaign that clearly states how they are helping their customer — and they need to track the results. If the results are good, they can tout how they helped customers in a follow-up marketing campaign later in 2020.

- **ORGANIZATION CHANGE**

Since organizations earn a big amount before the lockdown, after the lockdown they earn a majority profit of 15%-40%.

This all because their majority earning is saved because the employee work from home and the customer don't come to visit offices. The amount of profit made during that period should be invested for attracting consumers.

The challenged faced by organizations are lack of team, lack of community and collaborations. To achieve goal to this challenge, need to focus on such thing given below:

1.timely tracking clients.

2.check-ins with all team member

3.weekly accounting.

 ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

- **COMMUNICATIONS**

Communication between the client the agencies may change. Clients generally love in-person meetings at their office or our office. They also enjoy lunch, coffee or happy hour. That all has gone out the window now. This places a necessity for everyone still to show up to those meetings just as they would in-person, but via video call.

This can be achieved by dressing up well, wearing decent clothes and sitting in a lighting background during the video conferencing. This is the new skill set as video calling or meetings to be conducted via apps.

- **BRAND PROMISES ENTERTAIMENT**

It is the golden opportunity for the influencers market to grow up because of consumers are sitting home and consuming a lot of online content. In this unprecedented time consumer wants the brands to be sensitive and give them an option of entertainment to spend time and serve them silver platter of everything.

- **AWARENESS GENERATION**

As given above brands are moving towards the influencers market and providing a unique value to the customers. Influencers have the ability to transform their home into workspaces and becoming a spearheaded in creating awareness to millions of followers.

- **EDUCATING RATHER THAN SELLING**

It's the not right time for the re brands to sell their products to customer or the audience, instead they should use influencers market to sell and promote their good and products and sell them for perfect price.

- **INNOVATIONS IS THE KEY**

Covid-19 is the reminder for the brands to find innovative way to engage with audience. We have seen the brands collaborating with influencers in all field and taking a step toward digital innovations, going towards the virtual communications via influencers and making best of it in this bad situation. Brands need to think on capitalising the relation between them and customer prosper.

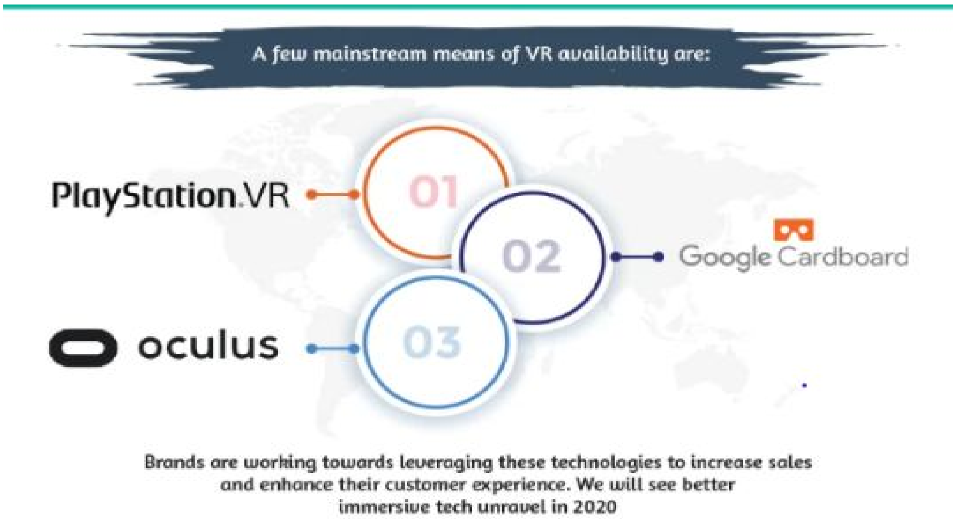
VI. TRENDS NEED TO ADOPTED BY FIRMS

Figure 1. above shows the strategy need to be adopted by firms

1. INTERACTIVE CONTENT: Firms should carry out the marketing by using interactive means of communication to consumers, which can be achieved by promoting products via videos, quizzes, shoppable posts, virtual reality. Interactive content if effective educating the buyers versus static content. Since this type to marketing is shareable which create more awareness about the brand in the public and increase the demand. 90% of market in interactive content is shared and used by consumers in the society.

2. AR AND VIRTUAL REALITY

By the end 2020 most of organizations and firms need to shift them replace their old techniques to newly demanded techniques such as artificial intelligence and virtual reality. virtual reality is concept of making a truly real feeling of product by giving more than 3d experience. The products are already in market and are at peak demand by the consumers such as VR LENS, GOOGLE CARDBOARD. Using such product for promoting the goods and giving the clients best experience will make boost in market.AR boosts the sales presentation and aims to create a 3-dimensional experience.



3. USING OF SEO

As we all know that use SEO is optimized the given web page and increase the quality and content of the users while searching or surfing in the browser. It improves the user's search result. In general, the conversion rate of SEO is more than simple bound traditional method. SEO jeopardize a particular website from best to worst and even end up. Our prediction is that SEO will improve its algorithm to provide a quality searched result.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

4. USING SOCIAL COMMERCE

Smart firms have combined the e-commerce and social media together into social commerce. Major thinks to do in this marketing strategy is to use the power of social media platforms by making shareable post and stories and making them avail for use on social accounts. And also using in social plugins and apps for selling of the products.

Advertising their goods on platforms like Facebook, Instagram, snap chat. By the end 2020 social media marketing will increase by 36% throughout the globe and making a firm to prosper.

5. SMART BIDING ON GOOGLE ADS

Also known as auction-time biding, smart biding refers to use of machine learning by google ads to improve the conversion biding. It was introducing in past year and help the PPC manager to choose a requires conversion actions at campaign level for specific interval of time.

VII. CONCLUSION

- As we known that after the impact of covid-19 on the economy and markets the firms in the countries need to shift their technology of selling and customers buying technique.
- By adopting all the changes return above the firms can make a stable and lighting level in market.
- Organizations, MNC, and small enterprises should not think about the profit during such period but also think about gaining trust of people, giving desired valued product, not increasing the price of product from consumer point of view.
- keeping track of product quality by making sure virus free, employee health, trust, talking politely to them, proper distribution of salaries to employees, using sprays, sanitizing timely, social distancing at workplace, being alert about the situation.
- Adopting all his necessary measures a firm can have better revenue and prosperity even when there is a bad situation in public and surroundings.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

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IMPLEMENTATION OF ROBOTIC PROCESS AUTOMATION IN ONLINE BUSINESS SECTOR

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ABSTRACT

There is a rapid change in technology and a lot of tedious tasks to be performed in a limited time. Competitive and financial pressures force organizations to be more efficient and implement the process effectively; therefore past several years the growth is seen in identifying new technology that would help to save costs, time, and add value to the business. Robotic Process Automation (RPA) is the technology and the solution for software automation in various domains like Telecommunications, Banking, Insurance, Healthcare Industries, Manufacturing Industries, Finance, Property Management, Information Technology Industries, and so on.

The aim of the paper is Robotic Process Automation in online business sector like E-Commerce. This paper discussed possible applications for e-commerce industry caused due to adoption of RPA in e-commerce. RPA in e-commerce can automate the process and improve the workflow of most of the repetitive tasks, such as inventory management, customer services, bill generation, customer feedback, supply chain management, customer complaints management, and business reporting. It will bring the benefits to both retailers and customers. The business men who have started the business online, using e-commerce portal would be able manage their business in more efficient manner.

Keywords: RPA: Robotic Process Automation; E-commerce;

INTRODUCTION

Robotic Process Automation is a booming technology that is used to perform repetitive work. RPA is governed by business logic, business rules and well-structured inputs therefore it is aimed to atomize the business process. Nowadays, there is competition among organizations to accept a faster method to implement the product and market the same product that is implemented using automation process. The task that performs by human are copied using RPA and it can be performed repetitively which automatically minimize manual processes that can be done by a human worker. The bot is programmed to perform various tasks such as read data, write data, modify data and also perform numerical calculations. There are multiple tools used for RPA such as UiPath Studio, Automation Any-where, Blue Prism, etc. [4]

One application does not interact with another application through API but the existing user interface. It also reduces costs and increases operational performance with some changes in technology. Once the bot is scheduled, it can perform assigned tasks 24 hours a day and after they are properly configured, the bots perform their tasks without any errors.

RPA in E-commerce is electronically buying or selling of products over the Internet using automation. The business men who have started the business online, using e-commerce portal would be able manage their business in more efficient manner. During COVID 19 in India, RPA can play an important role in E-commerce segment. RPA is integrated with other application to perform various task such as customer service, payment processing, marketing plan, that is useful for automating E-commerce.

OBJECTIVE

The main objective of RPA in the Online business sector is to minimize tasks such as customer service, payment processing, marketing plan, supply chain management that is useful for automating E-commerce. There are many challenges faced in the online business sector, which will give low productivity of the product. RPA integration will be most helpful to Online Business Sector. Integrating all these processes and working them in sync is a challenging task, RPA makes it easy by

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Vol.40-Issue.89-March, 2020

minimizing human errors, saves resources, and time. It will lead to better productivity with better sales of the product. It will also help workers to complete repetitive and complex tasks with less effort.

IMPLEMENTATION

RPA in E-commerce can help the business man not only to make their product available online but also atomize the process and repetitive task can be performed in more efficient manner. This will help the business man to increase the sell in the business. This COVID 19 Period, specially middle class and higher class customers are focusing more into buying the product online.

The business man has to make sure the product is available online as well as it has to be delivered to the customer within the time period.

RPA can help to atomize the repetitive process in more efficient manner and the process can be executed 24X7 and 365 days.

RPA in E-commerce can be implemented in the following ways:

- **Update and Manage the Inventory**

The large numbers of products and various brands are coming in the market, therefore lot of products are added in e-commerce website on daily basis. Performing this task manually takes a lot of effort and consumes more time and apart from this there are chances of mistakes as well. RPA is used to repeat the same task performed by the employee by adding products to the E-commerce website on daily bases or weekly basis as per its schedule. The Process starts from gathering product images to a particular image folder. From that images folder image file is extracted, then it checks product features such as product category, product name, product color, pattern, gender, etc. It can be check using an AI-based deep learning image detection model. These images are uploaded to the website using RPA by performing the same process repetitively.

Fig. 1. Shows detail about inventory management [2]

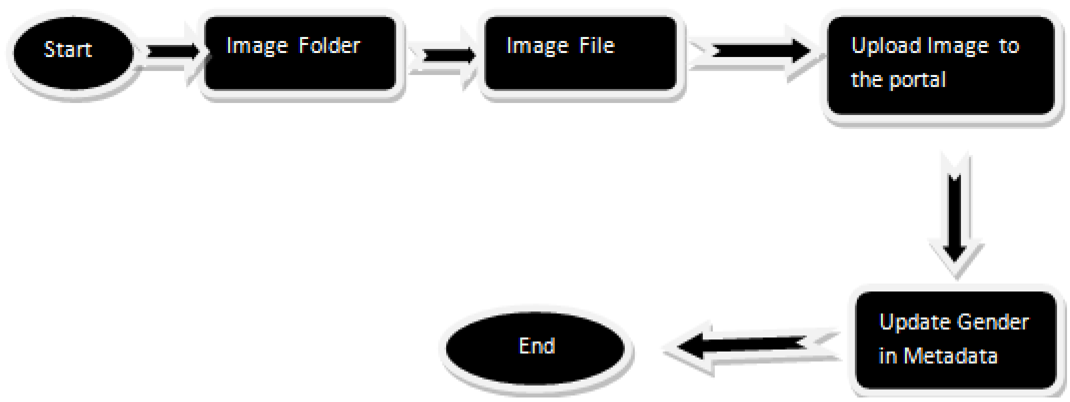

Fig: 1

- **Digital Payments channels**

Most of E-commerce business models are using both the payment methods cash on delivery as well as pay by digital mode of payment. The digital mode of payment methods is becoming more popular and easier as well. These payments methods are much more secured compared to previous days. The cash payment could be converted in to digital mode of payment such as Google pay, Paytm etc and there are many.

The invoice for the product to be delivered via e-mail if the mode of payment is cash on delivery and the payment could be done by one of digital payment method like Google Pay or Paytm. In this case generating invoice will be repetitive process which can be atomized using RPA. It includes billing, price changes, account payables, receivables, and so on then Bot allows to integrate their disconnected vendor payment systems, expense management plat-forms, paper-based payment, and accounting platforms. There are companies using RPA to create an invoice, manage the account of the customer and then sending the bill to the customer that enables the company to control employees spending time and guiding them into complete the process. RPA helps businesses to combine the entire processes of payment which was including multiple steps earlier but now it is done in a single mechanism that will

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

works across all the channels. Process of returning a product also can take place in similar manner and RPA can simplify the process of returning the product as well.

- **Catalog And / OR Template Automation**

For creating a catalog, you need content teams such as image editors, copywriters, and catalog managers. They fetch the details of the product from multiple files which are available in different places and collect them in one predefined template file to offer information that buyer needs and to create a product page. This process is repeated daily. RPA is programmed to perform tagging based on rules and categories guidelines. This will help avoid human errors and ensure the efficiency of a repetitive task.

- **Defining the Products in to Product Category**

There are multiple products which are supposed to be defined in to different pre-defined Product category. This is the most important process and has to be implemented in terms of the function of the retail industry. If the product is available on an e-commerce website and the customer is not able to find the product, which means product categorization is not done by the retailer properly. Since there are thousands of products available and sold via e-commerce portal the scope for error done by human also increases**.** RPA assigns the attributes and category to each product based on their customized product mapping rules. The automated process helps in giving proper taxonomy to every product, which allows the customer to find the product when they search for it. RPA system using AI-based deep learning could even sort and tag images when it recognizes a certain color or pattern.

- **E-Communication and Customer Services**

Customer Service is the basis of RPA as all activities and uses cases are directly or indirectly related to customer support. Portal receives multiple user queries and feedback. RPA bots filter junk requests and defend against spammers to ensure unimportant customer service requests don’t consume more time. So that employees can focus on real customer issues. The bot can send automatic notifications about order to customers and collecting user’s feedback after the order is received.

- According to the manual process, the service desk receives Email.
- Agent logs into Portal.
- Verify Customer Information.
- Open the particular application in the portal.
- Retrieve the information.
- Send Response Email.

System login, customer verification, email responses are done using RPA to make customer services more efficient. AI provides first-level support to RPA to integrate customer service requests. Chat bots are available 24×7 for the support and trust for the customer, along with consistent and predefined response across channels. Chat bots are a very popular choice for most of the retailers today**.** RPA chat bots are used to handle standard and generic customer queries, which allow vendors or business men to focus on more complex requests.

Fig. 2. Shows detail process about customer service[1].

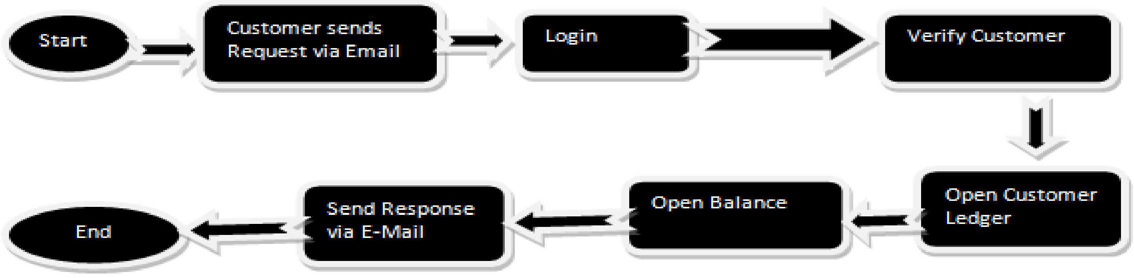

Fig.2.

Once the product is selected by the customer and placed the order, the customer is looking for the conformation that his product is ordered and will be delivered within the sand period of time. This will be repetitive process and could be communicated through E-mail.

The name of the product cost of the product along with the features and image will be sent through mail to the customer for the confirmation of the delivery of the product. The name of the product will be taken from the product list folder, the image will be taken from image folder and similarly the features will be taken from the respective folder and the confirmation will be sent to the customer via E-mail.

- **Supply Chain Management**

Supply Chain Management is the processes that interact with products and transfer it safely from supplier to the consumer. In between this transition, some processes are involved such as inventory level monitoring, shipment, customer support, order status tracking, and reverse shipment, etc.

Supply and demand planning include inspecting complex records and data sets, such as historical sales data, market indicators, and custom orders, etc. Tracking this data from customers, vendors and internal teams can be hard, time-consuming, and error-prone.

RPA is used to analyze this data using automation. First information is gathered and merged, then preparing data for manual analysis, and sharing it with planners. With the help of RPA security can be implemented and the business man can speed up the entire business process, from inventory management to shipping and order monitoring**.** RPA would be able to send alert messages on the order status via email or mobile sms and keep retailers alert about inventory and other tasks which are involved in shipping. It can also be used as predictive applications, by understanding historical data, notifying managers when product stock levels are low and sending an alert when similar patterns of demand begin to show, or automatically reorder stock that's selling fast. It can also optimize the cost by optimizing inventory usage and costs of wastage. With minimized costs, you can even reduce the cost of products for the users. It will improve user satisfaction levels.

CONCLUSION

This paper shows the benefit of using RPA in e-commerce. Implementing RPA in e-commerce can help organizations to enhance their performance and costs reduction by reducing human labor in routine business processes, and also by an increase in staff productivity, and quality of the work. RPA is able to manage and increase the sales for the business men by providing better customer service support and zero error operations.

When the process is automated, employees can utilize their time for complex and strategic tasks. Better inventory management, improved application integration, customer support, optimized operational costs, product categorization, payment processing are some of the benefits that are achieved through RPA in e-commerce.

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ROBOTIC PROCESS AUTOMATION IN EDUCATION INSTITUTE (RPA)

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ABSTRACT

We all know that in over all Countries School or college faculties and administrators face unique challenges on a daily basis around the classroom. As well as helping their students to the best of their ability, they are faced with bundles of paperwork. This can be an unbearable burden for those who joined the education industry to share their knowledge and give back to the next generation.

To avoid such a situation, for faculties and administrators, some schools and colleges, are adopting automating services which includes Robotic Process Automation (RPA) and Intelligent Automation (IA).This Paper shows how we can implement or used Robotic process automation in education sector.

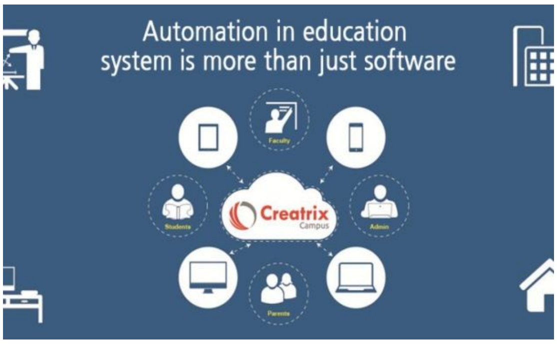
In education sector, with the help of RPA we can make admission process automatically, which helps in save our valuable time as well as cost.

Apart from that RPA plays an important role in tracing attendance, meeting and schedule and preparation of progress report.

Keywords: RPA, Automation Anywhere, Education System.

OBJECTIVES

The main Objective behind this project to reduce human efforts and the time which required to complete lengthy processes such as Administration, Accounting and Reporting. As we know Traditional educational administration process required more time, presence of students and administrator to complete this entire process as it includes many sub processes. The main goal of this project to make admission process much easier, less time consuming for the students and parents.



INTODUCTION

Before going to RPA in the education industry, it is important to understand the functions of the automation tool. The robotic process automation (RPA) does not represent physical or mechanical robot, it is programmed software (BOT) which is developed to process tasks automatically on the repetitive way.

Therefore, the aim of this paper is to present the basics of RPA, its applicability, benefits and some elements of the technology behind.

This concept can be used in various industries like healthcare, financial, banking, transport, retails, insurance, counselling and local authorities, and human resources.

As humans are no longer in the equation, the output will be error-free and accurate.

Consequently, the work will be implemented as a faster than compared to humans and error free.

This will make users and person become more efficient, effective, and productive on other tasks that only humans can handle.

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Vol.40-Issue.89-March, 2020

RPA is not going to completely replace humans but reduce their efforts.

Different RPA tools

Currently there are various automation tools are available in market but each tool has its own positive and negative factors. If you talk about market leaders, it is trio i.e. Blue Prism, UiPath & Automation Anywhere.

Automation anywhere is a tool of robotic process automation software which handles software bots to complete processes. It is founded in 2003 in CA, United sates of America [1]

UiPathStuido – an advanced tool that enables you to design automation processes in a visual manner, through diagrams. UiPath was started in 2005 by Marius Tîrcă. The company started from Bucharest, Romania and later opened offices in London, New York city. [2]

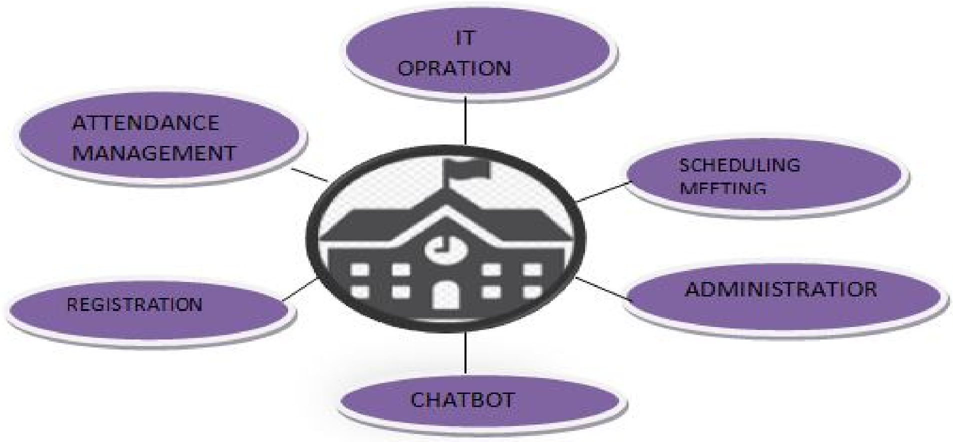
Blue Prism Tool in Robotic process automation that provides a digital workforce designed to automate complex, end-to-end operational activities. Blue Prism was established in 2001 by automation experts to develop technology that could be used to improve the productivity and effectiveness of organisations. [3]

In current education system, technology is playing a very crucial aspect in automating task, which are rule-based, costly, long time-consuming and frustrating.

In automated education systems the software bot can be used for Taking admission, Track attendance, scheduling meetings with teachers and students as well as parents, mailing, assignment, grades, Admin.

A user can communicate wia various channels over web based and mobile application as well as cloud based application.

Automation is the one of the solution for day by day tasks and improves the good organization and productivity of the educational system which consume less time and man power then remaining highly skilled.



There are many university functions in which we can used Robotic Process Automation For Education sector.

1) **Process Student Enrolment.**

This is a time-consuming task that every educational documents has to carry out. It involves a lot of paper-related tasks that are frustrated and error-prone. *There is a need to read the student's application form, validate the documents supplied, and verify students' eligibility for the course he or she has applied to, which is very irritation tasks, and it should be very convenient if we do it by automation.* The focus right now is to digitize and efficient these repetitive and boring approaches. Therefore, RPA is very important approach to achieve this goal.

The RPA bot is trained in such way to make self-directed decisions and it can simplify the manual method complexity.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

There are following steps for implementing Admission Process using RPA.

1) First, Bot will read the student admission form (PDF).
2) Then check all the documents are uploaded or attached with form.
3) Verify all the documents and check documents are valid or not. If documents are valid then go to the next step. Otherwise Bot will be stop.
4) Check eligible criteria for the student. If student is eligible for admission then got to the further process.
5) After that, the bot will enter student data into the particular website. And save all the important data into the database.
6) In Last, Bot will notify to the student through mail of the completion of admission.

2) Organize Meet up Schedules

In Today's generation taking meetings in the education universities is very important for teachers, students as well as parents also.

Every education universities can preparing and planning for board meetings, parent-teacher meetings, faculty meetings, and emergency meetings and etc. There is a need for the who is organize of such conferences to check up the schedule of the attendees. *Based on their availability, they can compose customized emails to each person or student who is going to attend this meeting, write the date, time, as well as the location of that meeting.* In case there is any problem is happening then the meeting is a change or postponement. then the organizers would have to repeat the whole process to arrange the schedule of meeting.

To overcome this situation, this is an easy-pie for RPA. Without any human intervention it can automate the scheduling of meetings. In rpa, Bot can check the work schedule of every attendee, prepare customized emails to those who leave to be in the meeting, and inform them ahead of the meeting.

Not only that, the RPA Bot can draft emails to parents notifying them of their children's progress report and fix a meeting if there is a need.

For scheduling the meeting we used scheduling and triggering components of the RPA.

In Addition, We can also add the location with date and time. Suppose, class 10 meeting will be held in room no.1 at 9 o'clock. then if you want to schedule a second class meeting in the same meeting room on the same date. Then the bot will check and show that the meeting room is already full.

By using schedule manager we can schedule the meeting by day, week or month wise and we can also set the time for the meeting.

3) Track Attendance

Taking attendance is a repetitive but important task every educational university has to perform day by day. But, manually attendance marking is very time-consuming, and has been more challenges that education universities face. It's very important to maintaining the records of present and absence students and informing their parents but, it's very hard on faculties who want to focus on teaching. So, using Robotic Process Automation we implementing services utilizes an RFID chip which is provided to every student for automatically marking the attendance when they enter into the classroom or premises. this confirms that the student is present in the classroom. At the end of the day or weekly we can receive CSV or excel files about the overall attendance report of the students using this technology. As well as teachers can send the attendance report to the parents through email.

4) Prepare Progress Reports

Faculties are not only responsible for the evaluation of the examination paper of the students, But they are also required to prepare the progress report of each student. In this process also RPA can help to generate progress reports automatically with less time and manpower. Once Faculties have stored the student scores in a computerized format, the Robotic Process Automation tool/bot can source the information from the database, input the data in the progress report card, and communicate it to parents.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

In short RPA bot can extract student grades form the database, enter the details in the process card and send the report to the parents.

CONCLUSIONS

In conclusion, Automation gives teachers and admin staff more time to spend on their main goal: giving students the best education possible. Meanwhile students have more time to work on their education.

Educational universities are moving towards automation which is beneficial to all Faculties, staff, administrators, and students and others for their various learning or educational activities. RPA can reduce human intervention for everyday tasks and increase productivity by reducing precious time and cost.

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ANALYSIS OF COPY MOVE FORGERIES & THEIR DETECTION METHODS

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ABSTRACT

Image forgery is a real time issue in today's time and causes a lot of tribulations to the society. Nowadays because of low-cost and more-resolution digital cameras, there is enough amount of digital images across globe. Image manipulation is simple and common due to the availability of image processing software, such as Adobe Photoshop, etc. In Digital fraud, Copy- move forgery is a very regular category. This paper is an attempt to review the types of the image forgeries, and the recent methods adopted to identify them, real world popular examples of image forgery, special focus is given on copy move forgery.

Keywords: Copy-Move, DCT, Image Forgery, Image Retouching, photomontage, RANSAC, SVM, SIFT.

1. INTRODUCTION

In today's media-saturated world, digital images act as the primary sources of evidence toward any event in legal as well as media and broadcast industries. They are used as the major weapons in many criminal and court cases, and are the prime carriers of information for media industry. Digital images form a significant part of information transmitted in regular lifestyle as well, e.g. magazines, social media, television and mobiles. However, due to the large volume of digital images transmitted on a regular basis over public channels such as the Internet they are highly vulnerable to modification and integrity attacks. Moreover, the wide availability of low-cost, easy-to-use yet powerful editing software and desktop tools has put the integrity of digital images further at stake today. Such tools and software provide highly sophisticated features which render any manipulation done to an image undetectable by trivial means.

Manipulations to an image need not always be done with unfair intentions; image editing may be required many times for enhancing visual quality. However, image forgers many times exploit image processing tools and techniques with an intention to obscure significant elements in an image and subsequently use the forged images for the purpose of defaming any incident. Hence, protecting the integrity and authenticity of digital images poses as a major challenge in today's information age, with the recent increase in the rate of cyber-crimes.[1]

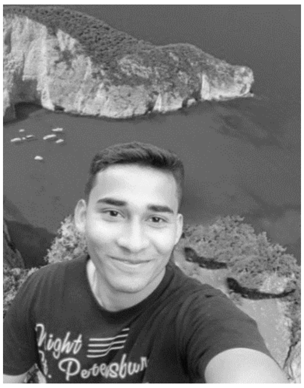

Figure 1: a) Original b) Forged

Today, image authenticity is a matter of tremendous concern. Several image forensics techniques are used for the same. They can be broadly classified as active forensic technique and passive forensic technique. [1],[3],[22]

In Active forensic technique, watermarking and steganography are two techniques which are used to insert authentic information into the image. When question arises about the authenticity of an image, then prior embedded authentication information is recalled to prove the authenticity of that image. However, embedding authentication data to an image is very confidential. One of the limitations of

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Vol.40-Issue.89-March, 2020

Active forensic technique is applying multiple steps of processing of digital image. In passive forensic techniques, copy-move forgery is the popular method to form a forged image. It refers to copy one part from image and paste it inside the same image [2]

Passive image forensics is usually a great challenge in an image processing techniques. There is not particular method that can treat all these cases, but many methods can detect a special forgery in its own way. In Passive forensic technique, Image retouching, Image splicing and Copy-Move are three techniques which are used.

A. Types of Image Forgery

- **Image Retouching:**

It can be treated to be the less dangerous moderately duplicate digital picture. Image is not changed significantly, but it employs image enhancement. The original image is modified and certain features are changed. This technique is popular among magazine photo editors and is present in almost all magazines. [35] Even though it is used only for making pretty photographs and it is not harmful type of image forgery, the fact remains that such enhancement is ethically wrong.[7],[35], [23]

- **Image Splicing**

This is second one type of forgery. It is also called as ***photomontage.*** It involves combining of two or more images to form a one image that is significantly from the original one. It is more harmful than Image retouching. Image splicing can be done by pasting part of the image regions from the same or separate sources images. [23]A fake image is produced by sticking, together two or more images using digital tools available such as Photoshop. Several infamous news reporting cases that involve the use of faked images is a common example of image splicing. A single image can describe a complex idea easily. Therefore, an artificially tampered image may give a totally opposite or different impression and produce quite disturbing consequences [24, 25]. Photojournalist Markus Schreiber took the picture in Fig. 2(a) on the very first day of the 2017 G-20 summit, Germany [26]. Later this picture was modified and uploaded to social media by a Russian journalist [27], which created a huge rumour and confusion across the world. Similarly, a tampered image could affect the decisions that are mainly based on digital image information.

(a) Authentic image (b) Spliced image

Fig. 2. Image splicing example [28]

- **Copy-Move forgery**

The copy move forgery also known as cloning is one of the difficult but most commonly used image tampering technique [6], a part of image which is covered by other part of image. [39] In a copy-move attack, the main purpose is hiding the information in the original image with some other part of the same image. [35] Thus the desired information can be added or hidden by covering it by a part of the image. The example of Copy-Move type is as shown below.

Fig. 3. Is an example of copy-move forgery where a group of soldiers are duplicated to cover George Bush. [7]

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2. LITERATURE REVIEW

Various number of region-duplication authentication techniques have been implemented to handle the issues identified with image authentication. All copy-move forgery detection techniques are developed with either block-based or keypoint-based methods.

In past it has seen a considerable growth of research interest in the area of digital image forensics [8, 9, 17]. In this paper, we deal with a specific class of copy–move forgery. One of the pioneer research developments toward copy move forgery detection in digital images was proposed by Fridrich et al. [10]. In [10], Fridrich et al. proposed region duplication detection methods based on the principles of exact block matching, autocorrelation, exhaustive block search and robust match [based on discrete cosine transform (DCT)]. Out of the four different principles, the robust matching method has been proven to be the most efficient and accurate to detect duplicate image regions. However, this method, when applied to images containing large identical textured regions, leads to a lot of false matches. Farid and Popescu [11] proposed an efficient copy–move forgery detection technique based on principal component analysis (PCA). However, this technique does not work equally efficiently for lossy compressed images because of the dimensionality reduction feature of PCA. Kang and Wei [12] proposed a region duplication detection method based on singular value decomposition (SVD), having low computational complexity, yet extremely effective in cases where the duplicate regions are induced with slight noise. Zhang et al. [13] proposed an algorithm based on discrete wavelet transform (DWT) for copy–move forgery detection, which again attains a considerably low computational complexity as compared with the other existing schemes. Yang et al. [14] applied dyadic wavelet transform (DyWT) on a forged image by decomposing it into four frequency sub-bands, and have used the low-frequency sub-band to divide the image into overlapping pixel blocks. The blocks are then sorted lexicographically according to their Zernike moments. The Euclidean distance between each block pair is computed and the matching pairs are detected using a threshold on the distances. This method produces very less number of false matches, even when image has large flat regions. However, the computation of Zernike moment involves considerable computational complexity. Another duplicate region detection method based on Fourier–Mellin transform was proposed by Bayram et al. [15], which proves to be extremely robust against re-scaling, blurring, lossy compression and noise induction into the duplicate regions. A similar approach was followed by Lin et al. in [18], where the forged image is divided into overlapping pixel blocks and seven different characteristic features are extracted from each block. Using lexicographical sorting on the features, the authors find the similar block pairs and finally the matching blocks are detected by applying a threshold on the block-pair similarities.

In recent years, there has been a quite lot of research developments towards the identification of slightly modified duplicate image regions. For example, Ling et al. [19] proposed a fast copy move forgery detection algorithm, which addresses the problem of lossy compressed and noise induction into duplicate image regions. In [16], the scheme proposed by Huang et al. is able to detect copy–move forgery in digital images, containing additive white Gaussian noise [20] as well as distortions cased due to lossy Joint Photographic Experts Group compression [21].

3. COPY MOVE FORGERY DETECTION TECHNIQUES

Copy Move Forgery is a picture fake method in which a region of a picture is copied and moved on another region of the same picture. Identify methods of Copy move forgery are Block based method and Key point based method. In Block based CMFD techniques, the picture will be divided in to flapping blocks of specified size and a feature vector will be calculated for these blocks. The main aim of copy move forgery detection is to identify forged regions even though if they are moderately varies from one another. The process of pipeline for copy move forgery identify contains some steps to be followed as shown in below diagram.

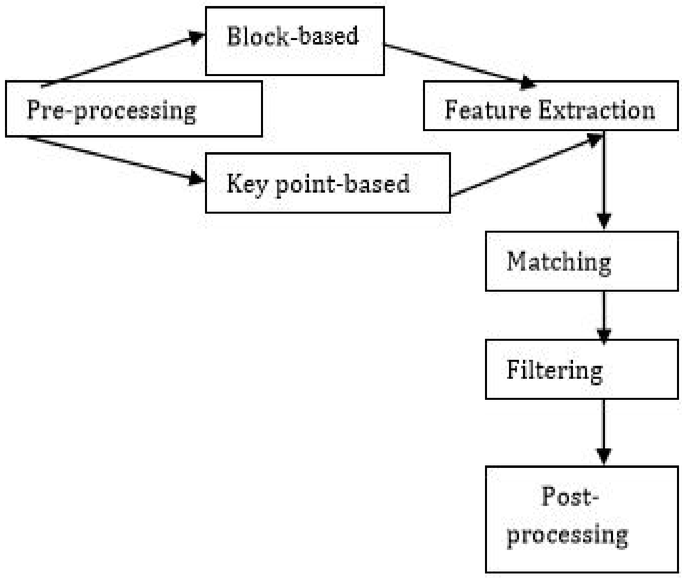

Fig. 4. Processing pipeline for CMFD [4]

- **Feature Extraction**

Feature extraction process should begin from an build up of measured data Techniques like in system expert, pattern recognition and in image processing, and then derived values must be built calculated to be providing useful and un wanted, facilitating the subsequent learning and generalization steps, and in some cases generate to better human explanation. Feature extraction is associated to dimensionality reduction. [4]

- **Matching**

Matching is done to detect the duplicated regions. High resemblance between two attribute descriptors is translated as a sign for a copied area. There are two Methods used for matching can be lexicographic sorting, Best-Bin-First search. [4]

- **Filtering**

We can able to reduce the false matching image probability, by applying filtering. Removing the matches exist between spatially close regions includes the removal of common noise suppression. Mostly adjacent pixels usually have the indistinguishable intensities, which makes to appear false forgery detection [4]

- **Post-processing**

This Post processing step is mainly to save matches which display a usual performance. Such matches are anticipated to be involving nearby to one other in both the original and the destination blocks (or key points). The matches that developed from the same copy move exploit must display same amounts of translation, scaling and rotation.[4]

4. COPY MOVE FORGERY DETECTION METHODS

In copy Move forgery a block of the picture is replicated and stuck to another block of a similar picture Thus, it is it extremely difficult to recognize this type of fabrication as the replicated image is taken from a similar image. [29], [36],[43], [44] In this section we survey different methods used in detecting copy move forgery

- **SVM Classifier**

SVM classifier is one of the most effective data mining algorithms. It is similar to the functional form of neural networks and radial basis functions. SVM uses a training dataset to train the algorithm which is used to determine if the class for a tested image is a forged or an original image. The algorithm use some features to be extracted and then exploited in the classification process [30].

- **Discrete Cosine Transform (DCT)**

Discrete Cosine Transform (DCT) is a block based method is used to detect the forged images. It is used to locate the doctored parts in the image. DCT algorithm uses the divide and conquers technique by dividing the image into overlapping blocks. Using DCT, duplicated regions can be easily identified in the image.[29] DCT is simple and fast and widely used for matching duplicated, overlapped regions[29],[31],[45]

- **Block-Based Methods**

This Block-based algorithm divides the digital image into overlapped blocks of a specific size and feature vector that will be computed as a hash value for each and every block to match the differences to detect if the digital images have a duplicated region or not [32]. Block-based approach makes use of algorithms such as DCT, DWT, KPCA, PCA and ZERNIKE [4],[41],[42]

- **Genetic Algorithm (GA)**

Genetic algorithm (GA) is used to generate the high quality solutions for optimization by selecting the most suitable and the minimum number of features in the image to localize the tampered regions by using the Euclidean distance between them. This algorithm has a high performance in detecting a copy-paste image forgery [33]. GA is proven as more accurate and effective algorithm for detecting the image forgery, [31][29]

- **Brute Force**

Brute force method uses searching the matching segment with its circularly shifted versions; As the search is exhaustive, the number of comparisons is very high, its computational cost can be very high. [44] Further, auto correlation is used to determine the location change of the image segment. [44]

- **Key point Based Method**

Key point Based Method: unlike block based methods that operate on blocks of a image, Key point based technique operates on the whole image. Key point based methods compute their attributes only on picture areas with excessive disorder. [46]

Key point based method are be further classified into two techniques:

➢ **SIFT (scale invariant feature transform)**

The Scale-Invariant Feature Transform (SIFT) is used to describe & detect local features in an image. The keypoints of the suspected forged image are extracted and analysed with keypoints generated from all over the image for similarity matching.[37]

➢ **SURF (Speeded Up Robust Features)**

The Speed Up Robust Feature detector (SURF) ensures the high speed in three of the feature detection steps: detection, description, and matching. Due to the use of the Hessian matrix's trace, the matching speed has been significantly improved over the SIFT. The SURF algorithm speeds up the SIFT's detection process without scarifying the quality of the detected points.[38]

- **False Positive Removal (RANSAC)**

Random Sample Consensus algorithm (RANSAC) removes false positive matches. In RANSAC algorithm, a set of matched points are randomly selected and then the homography is estimated. After that other remaining matched points are transformed and then compared in terms of distance with respect to their respective matches. A threshold value is set. If this distance is under the threshold value it is marked as inliers and if it is above the threshold is catalogued as outliers. After a predefined number of iterations, the estimated transformation which is associated with the higher number of inliers is chosen [40]

5. CONCLUSION

The capabilities and the availability of image editing tools help to make the forged images to be widespread. The survey of research papers of image forgery detection shows that numerous methods are developed for detecting image forgery, but with the advancement of image editing software, dealing with tampered images has become one of the most serious needs of the digital age. Today, abundant research is being done in the area of artificial intelligence, image mining, machine learning and deep learning. This paper presented a study on various detection techniques and methods.

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SECURITY OF ONLINE TRANSACTIONS DONE USING CREDIT CARDS

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ABSTRACT
The rapid growth in the use of internet and technology has shown that the people are highly reliable on online payments which includes transactions using credit card and debit card. There are various protocols are being used to provide a safe electronic transaction over the web. The protocol used for safe credit card transactions is Secure Electronic Transaction protocol. While SET only focuses on front end of transactions, there are many other protocols focusing on both credit and debit card payments. The purpose of a credit card fraud can be to acquire services of someone else account using their identity i.e. Identity theft. There is a standard that is made up for for credit card payment security named as ' The payment card industry data security standard '. The increased and improved security measures are making it harder for fraudsters to make any fraud easily. The main objective of this paper is to find out the methodologies that are being adopted by the bank or any other organizations to decrease the frauds taking place during credit/debit card transactions. Along with this we would also find out how to secure the online transactions from breaching both online and offline. The techniques used in credit card fraud detection are: Fuzzy logic,Bayesian Network and Decision tree.

Keywords: Online transactions, Credit card security, Artifial Intelligence based detection of credit card frauds, Banking, Machine Learning.

I. INTRODUCTION
Robert Kiyosaki has said that when he was young, people lived from pay check to pay check and today, it looks like people live from credit card payment to credit card payment. As the number of online businesses is increasing, the number of electronic transactions has also increased. Buyers and consumers are immensely using online practices to shop and sell as it makes the whole business method simpler. The most popular type of electronic transaction is using Credit card. Since the credit card is simple to use, people are likely to use it. Credit card users are most likely prone to face credit card frauds due to some security threats. Two methods are used majorly to avoid credit card fraud: a) Two Factor Authentication b) Random Pin Generation. Random pin generator is used to authenticate the legitimate credit card user. Two factor authentication and Random pin generators are used together for a secure transaction over internet.

Credit Card Hacking
The "Hacking" was one of the buzzwords in 1980. The meaning of hacking is any kind of misuse regarding any computing activity.

Different forms of hacking are
1. Attacking the customer database
Hacking a credit card by acquiring its credentials is very difficult, but a successful hacking attack can cause loss of thousand of credit cards. Poor security systems can lead to such attacks.

2. Fooling customers by calling and asking for information related to the card
Some hackers create fake online store just to get the credentials. Once they receive the order, they start asking for your card credentials. These sites are purposefully made for retrieving the customers personal data and card credentials.

A. Types of credit card frauds
Credit card fraud is a kind of identity theft in which a person uses someone else card credentials to charge purchases, or to withdraw amount from the account. Credit card fraud consist of the illegal use of a debit card, and may be achieved by the stealing the actual card, or by illegally acquiring the card

holder's account and personal information, including the credit card number, the credit card's security number, and the card holder's name and address.

Credit card frauds are executed in the following ways: [1]

1. Stolen cards
When a person looses his card somewhere or his card gets stolen. This is the only way the third parties can access the card details.

2. Illegal access to account
The fraudster takes charge of the legitimate user's account by providing the card credentials or account number. Then he contacts the issuer entity and asks for address update etc. Tells the issuer authority to send the replacement of card.

3. Creating a fake card
Today we have very well designed, well programmed machines where one can create a fake card from using the scratch. This is the frequent fraud though fraudulent cards requires a lot of effort and skill to produce it. Modern cards have such a lot of safety attributes, all designed to make it difficult for fraudsters to make a fine fraudulent. After introducing the Holograms inside the credit card it makes very hard to clone them effectively.

4. Skimming
Skimming is rapidly emerging as the known form of credit card fraud. Most instances of counterfeit fraud involve skimming. It's a process where the particular data on a card's magnetic tape is electronically copied onto another. Fraudsters are caught to have pocket skimming devices, an digital magnetic tape reader operated using battery, with which they swipe customer's cards to get customer's card details. The fraudster performs this when the customer is expecting the transaction to get validated through the card terminal. The credit card holder doesn't realize this and it's very difficult for him to spot. In different cases, the little data got by means of skimming are utilized to perform deceitful card-not-present exchanges by fraudsters. Until the cardholder has the bill he does not understand what has the happened.

Fraud Techniques:

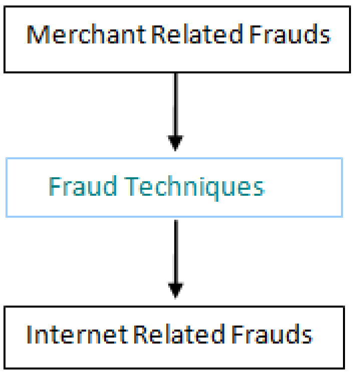

Fig 1. Fraud Techniques

1. Merchant Related Frauds
Merchant associated frauds are accomplished either by using proprietors of the merchant establishment or their employees. The forms of frauds initiated by traders are defined below. [1]

a. Merchant Collusion
This sort of fraud happens when vendor proprietors or their employee contrive to commit fraud using the cardholder accounts or by utilizing the private data. They provide the knowledge about cardholders to fraudsters.

b. Triangulation
Triangulation is a kind of fraud which is completed and operates from an internet site. The products or goods are offered at heavily discounted rates and also are shipped before payment. The customer while

browse the website and if he likes the merchandise, he place the web data like name, address and valid card details to the website. At the point when the fraudsters get these details, they request products from an authentic site utilizing stolen card details. The fraudsters then by using the card information purchase the products. This process is meant to cause an excellent deal of initial confusion, and therefore the fraudulent internet organization in this manner can perform long enough to accumulate widespread range of products purchased with stolen credit card numbers.

2. Internet related frauds

The internet is the basis for the fraudsters to perform the frauds within simply and the easiest way. Fraudsters have recently begun to work on a very translational level. With the expansion of trans-border, economic and political spaces, the web has become a replacement for worlds market, capturing consumers from most countries around the world. The below described are most ordinarily used techniques in internet fraud. [1]

a. Site cloning

Site cloning is the place fraudsters close an entire site or basically the pages from which the client made a deal. Customers have zero reason to believe they aren't dealing with the organization that they wished to buy goods or services from because the pages that they're viewing are similar to those of the original site. The cloned site will get these details and send the client a receipt of the exchange through the email simply like the original organization would do. The buyer suspects nothing, while the fraudsters have all these mall details as they have to do credit card fraud. [1]

b. False merchant sites

Some sites often offer an inexpensive service for the buyers. That site requests the customer to fill his complete details like name and address to access the web page where the customer gets his required products. Many of these websites declare to be free, but require a legitimate credit card number to confirm an individual's age. These sorts of sites using this way collect as many as card details. The sites themselves never charge consumers for the services they provide. The sites are normally part of a greater criminal system that either utilizes the little details it gathers to build incomes or sells substantial credit card details to small fraudsters.

c. Credit card generators

These are the PC application that generate legitimate credit card numbers and expiry dates. These generators work by creating the lists of credit card account numbers from a single account number. The product works by utilizing the numerical Luhn calculation that card users use to reproduce other valid card number mixes. This makes the user to permit to illegally generating as many numbers as he desires, within the sort of any of the card formats. [1]

B. Real Time Incidents

- In June 2018, police in Mumbai busted a card cloning racket that included servers at bars and cafes over the town taking information using card skimmers. The charged had figured out how to take the credit card information of nearly 1000 clueless clients over a time of 2 years. [2]

- On 19 October, India awoke to a banking nightmare. The State Bank of India (SBI) blocked 6 lac cards after a reported malware - related intrusion in a non-SBI ATM network. In what is in all likelihood India's largest financial information breach, nearly 32 lac cards across 19 banks, which include HDFC Bank, ICICI Bank and Axis Bank, had been compromised.

II. LITERATURE REVIEW

Credit card fraud detection has drawn lots of studies interest and a number of techniques, with specific emphasis on neural networks, artificial intelligence and generic algorithms have been suggested.

1. Genetic algorithm

Bentley suggested one algorithm in 2000 that is predicated on genetic programming in order to determine logic rules equipped for classifying credit card exchanges into dubious and non-dubious classes. Fundamentally, this technique follows the scoring procedure. In the investigation portrayed in their study, the database was comprised of 4,000 exchanges with 62 fields. As for the similarity tree, training and testing samples were implemented. Various sorts of rules were tried with the various fields. The best rule is the one with the most noteworthy predictability. Their strategy has demonstrated outcomes for genuine home protection information and could be one productive technique against credit card fraud.[3]

2. Artificial Neural Network:
It joins the thinking power human cerebrum with computational intensity of machine. It utilizes neurons as the choosing sites and the edges between neurons to compute the contribution of every neuron in the previous layer in the choice and result at the current neuron. It depends on pattern recognition. Earlier year's information is fed into the system and afterward dependent on that information it perceive another approaching transaction to be a fraud or legitimate one. Its training can either be supervised i.e. the output is already anticipated for a given transaction and the expected output is compared with real one to train the system or it can be unsupervised where we have no actual results to compare it with and thus are not sure about the results.[4]

3. Decision Tree:
It is an estimating tool for classification and prediction. A tree comprises of implicit nodes which denote a test on an attribute, every branch denotes an output of that test and each leaf node (terminal node) contains a class label. It recursively partitions a data set utilizing either depth first greedy approach or breadth first greedy methodology and stops when all the elements have been assigned a specific class. For the partition rule to be efficient it must separate the data into groups where a single class predominates in each group. In other words, the best partition will be the one in which the subsets do not overlap i.e. they are clearly disjoint to a maximum amount. [5]

4. Fuzzy Logic
It is used in the cases when we do not have discrete truth values i.e., they are continuous. It is a multi valued logic. There are certain set of rules supported which a transaction is assessed as a legitimate or fraud one. There are three important components in fuzzy logic that need to be executed in the stated order.

A. Fuzzification

B. Rule Based

C. Defuzzification

In fuzzification we classify an approaching transaction in the classes of high, low or medium dependent on the monetary value associated with the transaction. Rule based deals with drafting the rules based on the customer behaviour. The transaction is allowed to occur if it satisfies given set of rules. In Defuzzification, if a transaction does not comply with the predefined set of rules it isn’t allowed to occur. It is immediately stopped and then cross checked with the customer that whether it should be granted the permission to continue or be aborted.[6]

5. Support Vector Machines
It is a supervised learning algorithm in which given a data set it separates them into different classes using a hyper plane. There could be many hyper planes but we are determined to find an optimal hyper plane. The points closest to the hyper plane in the different classes are known as support vectors and these support vectors are used to predict the classes of new data points. Another approaching point is put on the equation of the hyper plane and then is classified as to which class it has a place on the basis of which side of hyper plane it falls on the vector space. To train our machine we feed supervised data i.e. data with results already known. It learns the behaviour of fraud and genuine transactions and then it can classify new transaction as to which class it belongs.[7]

6. Bayesian Network
It is based upon the Bayes Theorem of conditional likelihood; consequently it is a probabilistic model that is used for computerized detection of various events. It consists of nodes and edges, wherein the nodes represent the arbitrary variables and the edges between the nodes represent the connections between these arbitrary variables and their probabilistic distribution. We calculate predefined least and most occurrences of probabilistic of a transaction being fraud or legal. Then for a new upcoming transaction we see that whether it’s likelihood of being legitimate is less than the minimum defined value for legal transaction and is greater than the maximum defined value for a fraud transaction. If true

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Vol.40-Issue.89-March, 2020

then the maximum defined value for a fraud transaction. If true then the transaction is classified as a fraud.[8]

7. K-Nearest Neighbor:

It is one of the most utilized algorithms for both classification and regression predictive issues. Its exhibition relies upon three factors: the distance metrics, the distance rule and the estimation of K. Distance metrics gives the measure to locate nearest neighbors of any incoming data point. Distance rule helps us to classify the new data point into a class by comparing its features with that of data points in its neighborhood. And the value of K decides the number of neighbors with whom to compare. The important question is how do we choose the factor K? In order to obtain the optimal value of K, the training and validation is segregated from the initial data set. Now a graph depending on the validation error curve is constructed to achieve the value of K. This value of K should be used for each and every prediction. We calculate the dominant class in the vicinity of any new transaction and classify the transaction to belong to that dominant class.[9]

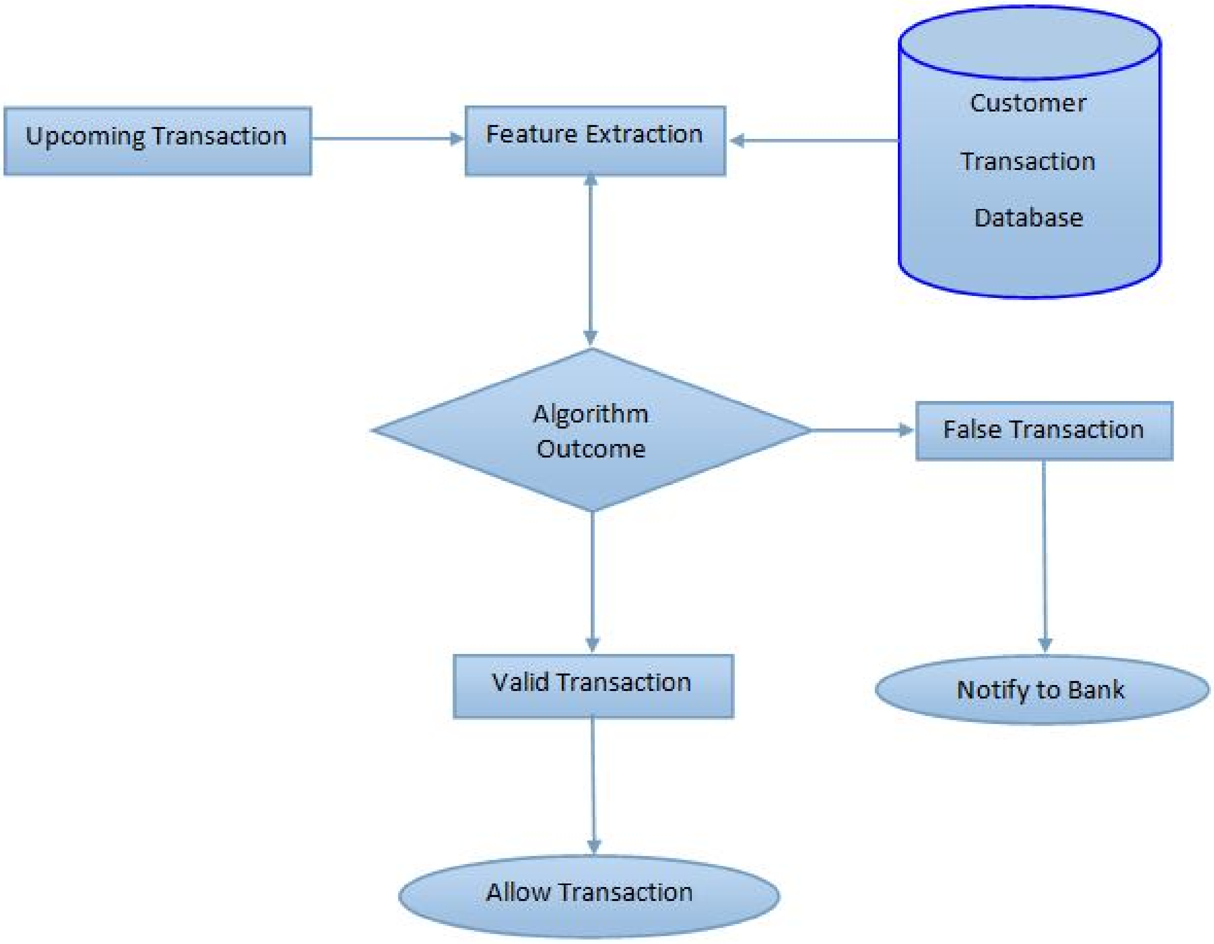

Fig 2. Working of a Fraud Detection System

III. COMPARATIVE ANALYSIS

In order to compare various techniques we have to calculate the true positive, true negative, false positive and false negative generated by a system or an algorithm and utilize these in quantitative measures to inspect and compare performance of different systems. True Positive (TP) are transactions that are fraudulent and are also classified as fraudulent by the system. True Negative (TN) are transactions which are valid and are additionally classified as legitimate. False Positive (FP) are transactions those are legitimate but are wrongly classified as fraudulent transactions. False Negative (FN) are transactions that are fraudulent but are wrongly classified as legitimate transactions by the system.

The different metrics for assessment are:
1. Accuracy is the fraction of transactions that were effectively classified. This is one of the most trusted and used evaluation metrics. Accuracy /Detection rate = (TN + TP) / (TP + FP + FN + TN)

2. Precision is the number of transactions either legitimate or fraudulent that were correctly classified. Precision/Detection/Hit rate = TP / TP + FP

3. Sensitivity quantifies the part of abnormal records (the records that have more chances of being false) effectively classified by the system. True positive rate(TPR)/Sensitivity = TP / TP + FN

4. Specificity quantifies the part of normal records (the records that have less chances of being false) effectively classified by the system. True negative rate (TNR)/Specificity = TN / TN + FP

5.False Alarm rate quantifies out of total examples classified as false how many are wrongly classified. False Alarm Rate(FAR) = FP/FP+TN

6. Cost = 100 * False Negative + 10 * (FP +TP)

We have structured a comparison done on the KDD data set from the standard KDD CUP 99 Intrusion Data set on all of the techniques mentioned in previous section using four measurement metrics: Accuracy, Precision, False Rate and Cost.[10][11]

Technique	**Accuracy**	**Precision**	**False Rate**
Support Vector Machine	94.65%	85.45%	5.2%
Artificial Neural Network	99.71%	99.68%	0.12%
Bayesian Network	97.52%	97.04%	2.50%
KNN	97.15%	96.84%	2.88%
Fuzzy Logic	95.2%	86.84%	1.15%
Decision Tree	97.93%	98.52%	2.19%

Fig 3. Comparative Analysis of Various Fraud Detection Techniques

From the above table it is clear that the artificial neural network and Bayesian network gives the highest accuracy. K nearest neighbor, support vector machine and decision tree offers medium level of accuracy whereas fuzzy logic system gives low accuracy as compared to others. High detection rate is offered by neural network, Bayesian, fuzzy systems. On the other hand SVM and decision tree provides low detection rate. Less false rate is provided by neural network only and SVM provides high false rate. Other techniques like KNN,Bayesian network, Fuzzy system and Decision trees all offer moderate false detection rate.But it is also notable that even if artificial neural networks and naive Bayesian networks perform good at all parameters, they are expensive to train. Other techniques like KNN, SVM, Fuzzy systems and decision tree are somewhat expensive to train.

The major gaps in the current models and procedures for fraud detection techniques are:

1. Lack of accurate information regarding credit cards as they are a private property and neither banks nor customers which to share their information thus leading to inaccurate and under-trained systems.

2. Lack of a single powerful algorithm that could perform consistently in every environment and can outperform every other algorithms.

3. We have a lack of good and efficient assessment parameters that can not only describe the accuracy of the system but can also give a better comparative result between different approaches.

4. Incapability of a system to adapt itself correctly to changing environment, new fraud techniques and legitimate changes made in purchase habits of a user.

IV. CONCLUSION

Although there are a very few fraud detection techniques available today but none of them is able to detect all frauds completely when they are actually happening, they usually detect it after the fraud has been committed. This happens because a very less number of transactions from the total transactions are actually fraudulent in nature. So we need a technology that can detect the fraudulent transaction when it is occurring so that it can be stopped then and there and that too in a low cost. So the biggest task of today's date is to prepare an accurate, precise and fast detecting fraud detection system for credit card frauds that can identify not only frauds happening over the internet like phishing and skimming but also tampering with the credit card itself i.e. it signals an alarm when the tampered credit card is being used.

The major drawback of all the techniques is they are not guaranteed to give the similar results in all contexts. They give better results with a specific type of data set and poor or unsatisfactory results with other type. [12] Some techniques like Artificial Neural Network and Naive Bayesian Network though have high detection rates and gives high accuracy they are very expensive to train. Some like KNN and SVM gives best results with small data sets but are not scalable to large data sets. Few techniques like decision tree and support vector give good results on sampled and pre-processed data whereas some techniques like fuzzy systems give better precision with raw unexampled data.

The key to develop a good hybrid model is to integrate an expensive technique which takes long to train but gives highly accurate and precise results with an optimization technique to reduce the cost of the system and make the system train quickly. The decision of techniques for a hybrid will based upon the applications and environment of the fraud detection system.

V. FUTURE SCOPE

From the above comparative analysis of various credit card fraud detection techniques it is understandable that Artificial Neural Networks performs best in this scenario. But the drawbacks of Artificial Neural Networks is that they are very expensive to train and can be easily over trained too. In order to reduce their expense we need to create a hybrid of neural network with some optimization technique. Optimization techniques that can be successfully paired with Neural Network are Genetic Algorithm, Artificial Immune System, Case Based Reasoning and any other similar optimization technique. Genetic Algorithm [13] helps by selecting the optimized weight of the edges in neural network. Artificial Immune System [14] can reduce the cost by eliminating the weights causing the maximum error and Case Based Reasoning [15] first tries to predict the output using a direct match with the user's profile.

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A LINEAR REGRESSION & DECISION TREE APPROACH TO PREDICTION OF STOCK MARKET

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ABSTRACT

Stock price forecasting may be a popular and important topic in financial and academic studies. Share Market is an untidy place for predicting since there are not any significant rules to estimate or predict the worth of share within the share market. In the finance world stock trading is one among the foremost important activities. Stock market prediction is an act of trying to work out the longer term value of a stock other financial instrument traded on a financial exchange. This paper explains the prediction of a stock using Machine Learning. The technical and fundamental or the statistical analysis is employed by the foremost of the stockbrokers while making the stock predictions. The programing language is employed to predict the stock exchange using machine learning is Python. In this paper we propose a Machine Learning (ML) approach which will be trained from the available stocks data and gain intelligence then uses the acquired knowledge for an accurate prediction. In this context this study uses a machine learning technique called Linear Regression and Decision Tree to predict stock prices.

Keywords: Stock Market Prediction, Decision Tree, Linear Regression.

I. INTRODUCTION

The stock market is basically an aggregation of various buyers and sellers of stock. A stock (also known as shares more commonly) in general represents ownership claims on business by a particular individual or a group of people. The attempt to determine the future value of the stock market is known as a stock market prediction. The prediction is expected to be robust, accurate and efficient. Stock Market prediction and analysis is the act of trying to determine the future value of a company stock or other financial instrument traded on an exchange. Stock market is the important part of economy of the country and plays a vital role in the growth of the industry and commerce of the country that eventually affects the economy of the country. Both investors and industry are involved in stock market and wants to know whether some stock will rise or fall over certain period of time. The stock market is the primary source for any company to raise funds for business expansions. It is based on the concept of demand and supply. If the demand for a company's stock is higher, then the company share price increases and if the demand for company's stock is low then the company share price decrease. Another motivation for research in this field is that it possesses many theoretical and experimental challenges. Stock market analysis and prediction will reveal the market patterns and predict the time to purchase stock. The successful prediction of a stock's future price could yield significant profit. This is done using large historic market data to represent varying conditions and confirming that the time series patterns have statistically significant predictive power for high probability of profitable trades and high profitable returns for the competitive business investment

The Objective of Research Paper Are:

1. The main objective is to achieve a proper result of Stock Market price of Apple whenever the number of the attributes is given.
2. To generate the pattern from large set of data of Apple stock for prediction.
3. To predict approximate value of share price.
4. To find:

- To generate visualization and model.
- To Study the Decision Tree model.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

- To Study the Linear Regression model.

II. METHODOLOGIES

We used the open dataset of Apple Stock from Kaggle website. The data-set consist of month's wise information considering the open, high, low, close price as well as volume. So, as we have collected the dataset we will be loading the Data in Jupyter Notebook. The Jupyter Notebook is an open-source web application that permits you to make and share documents that contain live code, equations and visualization. It uses include data cleaning and transformation, statistical modeling, numerical simulation, machine learning, data visualization and far more. The working of Jupyter notebook is by addition to running your code; it stores code and output together with markdown notes, in an editable document called a notebook. After saving it , it is sent from your browser to the notebook server, that saves it on disk as a JSON file with a .ipynb extension.

The first step is to Download Anaconda, Anaconda is a Python prepackaged distribution of Python which contains a number of Python modules and packages. And then open Jupyter notebook load the dataset .csv file and then according to our needs we will visualization and generate models. Here we are using two algorithms of machine learning i.e. Linear Regression and Decision tree. And then by comparing the graphs we will decide which model performed better.

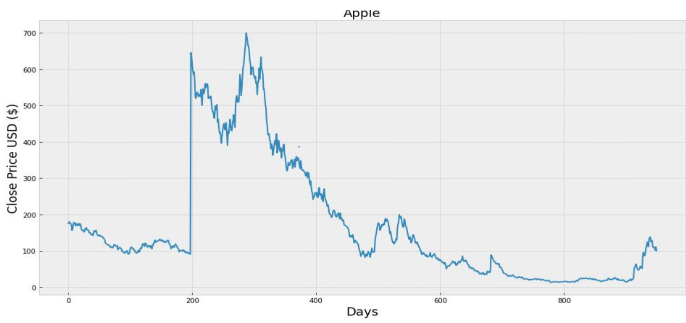
III. DATA ANALYSIS & VISUALIZATION

- **Visualization of Data-Set**

	year	month	open	high	low	close	volume
0	2018	3	177.32	177.470	173.66	175.82	46812368
1	2018	3	180.29	183.500	177.62	178.02	151720299
2	2018	3	175.21	180.000	174.27	179.98	138442235
3	2018	3	176.35	180.615	172.45	176.21	196432091
4	2018	2	172.05	175.650	171.01	175.50	133197874
5	2018	2	158.50	174.820	157.51	172.43	222582467

(Figure 1)

In (figure 1) the first 6 rows of Data set are displayed.



(Figure 2)

Visualize the data in (figure 2) to see what the closing price of Apple looks like on a graph.

	close
0	175.82
1	178.02
2	179.98
3	176.21

(Figure 3)

Now in (figure 3), I have store only the close price of Apple into the data frame.

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Vol.40-Issue.89-March, 2020

	close	Prediction
945	108.75	NaN
946	108.00	NaN
947	101.62	NaN
948	111.31	NaN
949	100.44	NaN

(Figure 4)

In (figure 4) I have created a variable to predict ‘x’ days out into the future.Then created a new column to store the target or dependent variable. This is essentially the close price shifted ‘x’ days up.

- **Show the models predictions**

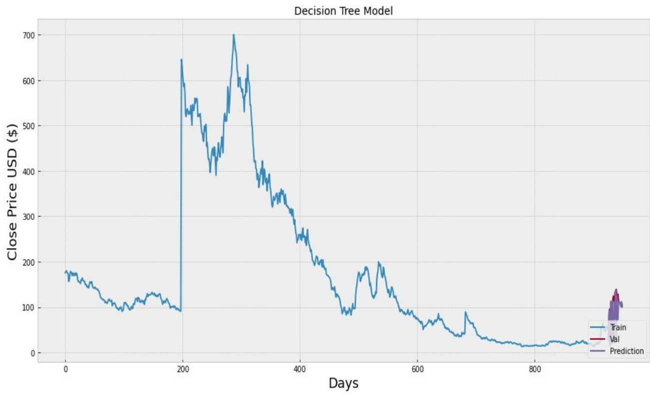
i. Model Prediction of Decision Tree.

```
[ 26.4375  51.69    91.19    14.79    92.56   113.12    19.     107.62
 113.12    33.715   22.19   111.87    75.405  135.81    28.06   125.
  70.29    73.35   110.37   111.25   108.75   108.     101.62   111.31
 100.44  ]
```

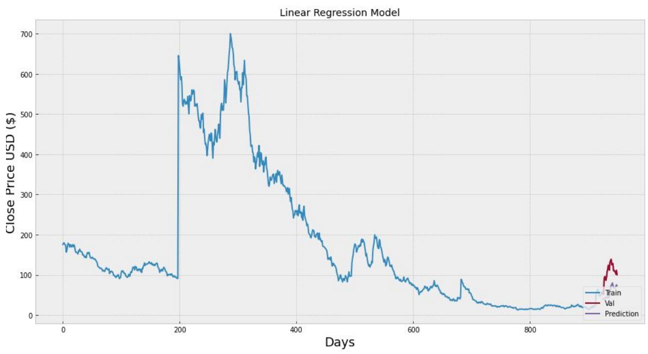
ii. Model Prediction of Linear Regression.

```
[39.69623076 38.9175053  39.74593665 41.40279934 43.26676987 42.59574048
 43.05966204 45.70235803 42.64544636 43.42417183 45.54495608 45.65265215
 48.60186775 70.50559258 73.02402388 76.0477983  79.82544524 74.33294541
 68.69132793 66.77765152 66.5208378  67.29127895 71.64054353 75.06196499
 72.36956311]
```

iii. Visualize and compare the predicted values with the actual or valid values.



(DECISION TREE MODEL)



(LINEAR REGRESSION MODEL)

V. CONCLUSION

In this paper, two different types of Machine Learning methods had helped understanding the trends in the stock market. The model is analyzed and fitted for training. After applying the Linear Regression model, the model has a poor performance. So, Linear Regression cannot be applied for stock prediction. The next model has way better performance than Linear Regression. Based on above graphs alone and no other performance metrics. I would say that the Decision Tree model performed better than the Linear Regression model. The main motive behind using this model is to make the investor feel better that they can have valuable returns.

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SELF-DRIVING VEHICLES, ARE THEY SAFE? WHAT SHOULD WE DO, WHEN THE ACCIDENTS BETWEEN SUCH CARS OCCUR? WHO ARE TO BLAME IN INJURIES AND FATAL OUTCOME?

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ABSTRACT
In the modern world, the motor vehicle are focused to be computerized to give human driver relaxed driving. In the industry of automobile various aspects have been considered which makes a vehicle computerized, electrical as well as automated The fully computerized vehicle will be able to self-drive under the human observation. Tesla and many more biggest network like Google ,Toyota ,Nissan has started working on the self-driving cars since 2010 and still Inventing and upgrading new changes to give a whole new level to the fully computerized automated electrical vehicles. In this paper we have focused on two applications of an fully computerized automated electrical vehicle car, one in which help human to drive safe and give human driver relaxed driving, hence relaxing driver from continuously pushing brake, accelerator or clutch during the heavy traffic jam and self-driving cars are they safe without human observation? what should we do, when the accident between such car occur? And who are responsible for such injuries and fatal. The idea described in this paper has been taken from the Tesla car and other many more examples who introduce there self-driving fully computerized automated electrical cars in the upcoming world.

Keywords: Autonomous Vehicle, Self-driving Vehicles, Cars, Self-driving cars, Self-driving Autonomous Vehicle.

I. INTRODUCTION
Fully computerized electrical automated vehicle are technological development in the industry of automobiles. Although fully computerized automated electrical vehicle are for ease of human to make drive relax but yet they are the most expensive vehicles. In this paper we have major focused on two applications of an fully computerized automated electrical Vehicles here. In the modern world we have to considered that we are suffering major traffic issues, so this overcome leads driver during heavy traffic a driver has to constantly pushing accelerator, break and clutch to move to forward slowly. We have advance solution to relax the driver in that situation by developing vehicle fully that has fully computerized automated vehicle which enough to make decisions automatically and move by maintaining appropriate and specified distance from vehicles and barrier ,stumbling blocks around us. The second issue is self-driving cars are they safe without human observation? what should we do, when the accident between such car occur? And who are responsible for such injuries and fatal. In this paper we mainly focus on how we reduce such injuries and fatal using such automated vehicle and relax humankind from driving.

II. LITERATURE REVIEW
In the field of autonomous after developing autopilot airplanes, self-driven boats, ships etc. beyond that there is also dream for self-driving car but due to technological advancement in the roads and the increasing population has made difficult for this dream to becoming true. In the pre-computer fields , since 1930s driver less car is just theory beyond page of paper and just a science fiction thing. But the development of Digital computer make possible to pull-out the dream of self-driving car from science fictions. But it is difficult to pull-out the science fiction dream into reality. There are several company to involve in this science fiction dream to make it possible for world, such as big giant company like Tesla etc. Tesla, Inc. (formerly Tesla Motors, Inc.), is an American electric vehicle and clean energy company. The company specializes in electric vehicle manufacturing. Founder of Tesla Elon Musk announce Software that enable Autopilot feature was released in mid-October 2015 as part of Tesla

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Vol.40-Issue.89-March, 2020

software version 7.0. And also Tesla announced future vision to offer self-driving technology which drive automatically under the observation of humans. After the incident of Google in 2012,the Google car hits the road for testing. After passing years, the car is fully developed and equipped with multiple sensors, radars, lasers, Global Positioning System (GPS), it uses heavily detailed maps, and many other things to safely drive. Tesla come with their owns hardware and related software that has their own features and stages. Hardware and related software[1] under this software All Tesla model vehicles are manufactured between September 2014 and October had the initial hardware(HW1) which can support Autopilot Feature. In which Tesla offered Autopilot would include semi-autonomous drive and parking capabilities and was not fully designed for self-driving. This Software enabling Autopilot was released in the mid of October 2015 As part of Tesla Software feature version 7.0 and its goals to offer customer for self-Driving technology . Afterward some removed features from version 7.1 that discourage customer from engaging in risk behaviour and some extra feature that have remote parking capability that enable to move the vehicle from one place to another, forward back under remote human control without a driver in the vehicle.

Then founder of Tesla announced autopilot software version 8.0 which support radar signals to create coarse point cloud sillier to Lidar which help to navigate in low light visibility and even see in front of the vehicle and updating with other noticeable changes in November 2016.Hardware and related software[2] in October 2016, Tesla state that the upcoming vehicles now come with essential sensing and computer hardware which knows Hardware and related software[2] [HW2], for future self-driving. Tesla also use term for this version called “Enhanced Autopilot” which is upgraded version of [HW1]. Enhanced Autopilot Feature has some self-Driving abilities that help driver to change lanes automatically without human input and move one way to another way and also exit highways when you are close to the destination and more. After that Tesla come with upgraded autopilot software for [HW2] in February 2017 its included auto steering on dividend highway, cruise control and auto steer on local road up to a speed of 35 mph, along with this Tesla introduce new firmware software version 8.1 for [HW2] in June 2017 that upgraded with new features like driving assist algorithm, full-speed breaking system and handling, parking. Hardware and related software[3] In March 2019, Tesla began install a new version of the "full self-driving computer" which has two Tesla-designed micro processors.In April 2019, Tesla started releasing some new update to Navigate on Autopilot, which does not require lane change confirmation i.e. without any human interaction , but does require the driver to have hands on the steering wheel because have some safety and policy reason . The vehicle will navigate the freeway interchanges on its own, but the need human supervise for safety purpose.

In September 2019 Tesla comes with its new software version named V10 to early access users, this feature include improvements in driving visualization and automatic lanes changes on freeway without human interaction. In February 2019, Elon musk suggested that the Telsa full self-driving capability vehicles would be feature complete. Which Means the car will be able to find you in a parking lot, pick you up and take you all the way to your destination without an intervention.

In May 2020 Tesla has again updated its software called version 2020.16.2.1 pedestrian animations that help autopilot powered driving visualization and this time, it features a cool new pedestrian animation. It means when the pedestrian are walking near road or close to the car the system will detect automatically and its look like chess pieces moving in board in Tesla autopilot driving visualization and that’s when they were actually detected and showing on the screen.

Fig 1. Pedestrian Animations

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Due to this update now we have seen several major improvement in Autopilot driving Visualizations. This feature help not only detecting surrounding cars but also many other object like cones, trash cans and other in animated objects that we need to avoided

III.OBJECTIVES

A. System of self-driving vehicle : Tesla has launched software update for its vehicles which enables feature like autopilot and full self-driving capability. Autopilot enable your car to break, accelerator, auto park and steer automatically within it lane and place along with these full self-driving mode introduce more features and improve existing personality.

Autopilot is an advance driver assistance system that provide enhance safety and convenience to driver it reduce overall workload when we used properly. Autopilot vehicle are fully featured with these features i.e. Long rang radar system which can see any object in front of vehicle from long range, camera with image reorganization which include pedestrian, traffic line also backup system to radar,3600 long range ultrasonic sonar it is for safety side whichever is smart move they can do through it.it can see even soft object like small kids, dogs and they operated on their own speed and GPS system which provide live navigation.

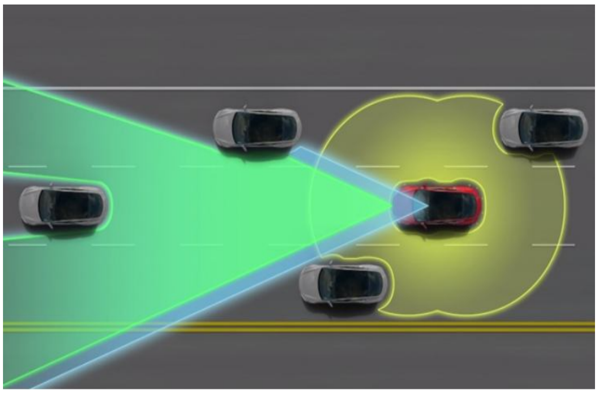

Fig 2. Vehicle System.

In the above figure the [1]Green light indicate long radar system,[2]blue light indicate camera with image reorganization and [3]3600 long range ultrasonic sonar.

B. Potential advantages of self-driving vehicles: In the self-driving vehicle there are two main potential feature i.e. Autopilot and full self-driven mode which help driver without do any activities, except hands on steer to monitor car activity and safety purpose to do immediate action during any emergency. Lets see these two features in details how its works.

1] Autopilot

1. Traffic: Aware Cruise Control: This feature enable you to Compare the speed of your car to that of the surrounding cars or traffics.
2. Auto steer: These feature enable you to guide in steering within a marked roads lanes and uses traffic-awareness cruise control.

2] Full Self-Driving

1. Navigate on Autopilot (Beta): These feature help you to actively assist your vehicle from a freeways on-road to off-road, automatically engaging the turn signals, including suggesting lane changes, navigating interchanges, and taking the correct exit according to your destination.
2. Auto Lane Change: These feature enable you to help in moving to an adjacent road lane on the freeway or highway when Auto steer is engaged.
3. Auto park: These feature helps you to automatically park your car according to place , with a single touch.
4. Summon: These feature help you to moves your car in and out of a congested space using the mobile app or key.

5. Traffic and Stop Sign Control (Beta): These feature help to identifies stop signs and traffic lights and automatically slows your car to a stop according to speed or traffic signal, with your active supervision.

C. Model for self-driving vehicles: Tesla Model X is best Autopilot car for self-driving over period, Its receive a 5-star safety rating in every category and sub-category from the U.S. National Highway Traffic Safety Administration. Along with latest features and upgrades.

IV. ADVANTAGES

As the world move towards automation there are so many industries are rapidly grown or moves towards automation .In transportation industry there are also such technology to deliberately move toward automation for better convenience and safety purpose for human. So let's take some advantages of autonomous vehicle for self-driving to society.

1. Reduce Accident : According to USDOT(United States Department of Transportation) 94% of fatal, vehicle crashes because of human error to reduce these fatal, the automation technology play potential role in transportation industry.

Most of the fatal are happened because of driver distraction so in the automation technology its very rare chance to face such situation. The House Energy and Commerce Committee website clarify: Autonomous vehicle are projected to reduce 90% traffic death with saving 30,000 lives per year.

2.Reduce Traffic Congestion : Indians currently spent more than 1,2 hours sitting in the car according to the traffic study. Our experiment show that as few percentage of vehicle being automated and carefully controlled in traffic, we can reduce or eliminate stop-and-go waves cause by human driving error or behaviour. Under normal situation, human driver naturally create stop-and-go traffic for lane changing, merge or other disruptions. This occurrence is called the "phantom traffic jam." This would be reduce with helping of autonomous vehicle. Even the decreasing the number of fatal is also responsible for decreasing cause of congestion and maximum reason for traffic congestion are mainly incidents.

3.Reduce CO_2 Emission: To reduce in traffic congestion also help to reduce co2 emission. Due to the electrical vehicle and software will drive the car i.e. autonomous vehicle which help to reduce maximum co2 emission.

4.Reduce Travel Time and Transportation Cost: Autonomous Vehicle reduce travel time up to 40% and save million of hours from traffic congestion, reduce fuel consumption or it may be not required because of it fully electrical vehicle that may be fully beneficial for country and for environmental issues its save money in trillion in average year.

5.Fuel Consumption: Tesla introduce fully electrical autopilot car that solve the problem of fuel consumption. So on single charge you can travel up to 351 miles and with supercharge of 15 min travel up to 123 mile(Tesla model X).

V. CONCLUSION

As per the research paper and review we discuss about self-driving vehicle are safe or not, we discuss on all aspect and at the end of our conclusion yes it is safe in several aspect and point of view. In the safety point view its more safe and recourse preventive. Every year around the world approximately 1.35 million people are killed due to accident. Approximate 3700 people are killed globally in road fatal. These issue mainly happened because of driver distraction and traffic congestion,(how its reduce we discuss above). In autopilot vehicle there fully self-driving feature that vehicle are drive itself but for additional safety reason having human hand on steer to monitor activity. In case of fatal and injuries due to self-driving vehicle it totally claim on the person setting on driver seat or the person who injured depend on situation. However the fully self-driving vehicle are available over a time but in the term of safety we cannot trust on fully automatic machine there are certain laws under which we have to follow safety rules to secure human lives.

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A COMPREHENSIVE LITERATURE REVIEW ON "CONSUMER BEHAVIOUR (WITH SPECIAL REFERENCE TO SATISFACTION) TOWARDS THE USE OF MOBILE BANKING AND NET BANKING SERVICES, WITH REFERENCE TO PORBANDAR DISTRICT"

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ABSTRACT

This article is a comprehensive and detailed study of selected research papers based on researches on satisfaction level of consumers towards use of mobile and net banking services. The researcher has studied papers based on similar line of researches from national and international level. The researcher has deeply analyzed each paper and enumerated the key finding of each paper. Based on this study, the researcher has attempted to discover a considerable research gap.

Keywords: Customer Satisfaction, Internet Banking, Mobile Banking, E – Banking Services

INTRODUCTION

Consumer Behaviour is a topic that has remained a topic of astonishment and deep study for the marketing experts around the globe. As per Kanuk, Consumer Behaviour is defined as "the totality of behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs."

As the definition suggest that consumer satisfaction is an integral part of the field of "Consumer Behavioural studies". It becomes very important here to define consumer satisfaction exhaustively and exclusively. The researcher here, uses the definition provided by "Philip Kotler", which is "a 'person's feeling of pleasure or disappointment, which resulted from comparing a product's perceived performance or outcome against his/her expectations'.

To put into similar words, consumer satisfaction is concerned with the terminal feeling of consumer towards the use of the product. If we further analyze the definition, we may draw inferences that when a consumer initiates purchase of any product or service, he or she carry a few expectation towards the product regarding the overall experience that he or she would receive from the product or service. If these expectations are successfully met, the consumers gets satisfied with the product or service and vice versa. Here, a question arises that if overall experience resulting from the use of product or service exceeds the consumer satisfaction then what can happen?-. A few marketing experts have defined this phenomenon as "Consumer Delight".

Mobile banking and Net banking has been a trend in the recent decade in the banking industry of India. After demonetization in India, mobile banking and Net banking has emerged with leaps and bounds.

Internet banking, is a medium of delivery of different banking services and as a strategic tool for business expansion, It has gained wide acceptance internationally and is fast catching up in India with more and more banks entering the fray. India can be supposed to be on the edge of a significant financial unrest with net banking having just been revealed. An ongoing survey to which 46 banks reacted, has uncovered that at present, 11 banks in India are giving Internet banking administrations at various levels, 22 banks propose to offer Internet banking in not so distant future while the staying 13 banks have no quick intends to offer such office.

At present, the absolute Internet clients in the nation are evaluated at 9 lakh. In any case, this is required to develop exponentially to 90 lakh by 2003. Just about 1% of Internet clients did banking on the web in 1998. This expanded to 16.7% in March 2000. The development potential is, along these lines, massive. Further motivators gave by banks would prevent clients from visiting physical branches, and accordingly get 'snared' to the comfort of rocker banking. The office of getting to their records from anyplace on the planet by utilizing a home PC with Internet association, is especially interesting to Non-Resident Indians and High Networth Individuals having various financial balances.

REVIEW OF LITERATURE

1. **Ms. Shilpa D. Dr. Veena K.P(January 2018)** (IOSR-JBM) Volume 20, Issue 1. Ver. I pp44-50 Customer Satisfaction on Adoption of Mobile Banking Services: A Study with Special Reference to State Bank of India (SBI). His main objective is to emphasize the theoretical background and current scenario of mobile banking services in Indian context. and also to study the demographic profile of mobile banking users of SBI bank in Mysuru city, in this researcher they examine 100 sample from primary as well as secondary data. they took various independent variables like Saving of time, No need to visit the bank, Customer friendly, Faster/24X7 Transaction and dependant variables is customer satisfaction they applied non parametric test mentioned, mean, standard deviation, Mann-Whitney UTest and Kruskal Wallies Z-Test to prove the hypotheses of the study to measure the reliability of data. And finally conclude those customers are very happy and satisfied which services provided by bank. and also found that strong relationship between variables.

2. **Sakthivel Murugan M (October, 2017)** International Journal of Current Advanced Research Volume 6; Issue 10; Page No. 6633-6636. "A STUDY ON CUSTOMER SATISFACTION TOWARDS INTERNET BANKING IN CHENNAI" in this researcher his scope of area is Chennai only. and his main objective is to study level of satisfaction in experiencing Internet Banking Services in Chennai. in this they applied statistical too T-test and they concluded banking customer are highly satisfied with services like easy to access, easy to use and save energy. Customers moderate satisfied with services likeon any day service, instant result of transaction on screen, efficient service, effective service, reduced transaction cost, free from cash carry transactions, safety, privacy, saves time, user-friendly, availability of multifarious services at one's convenient place, menu display in preferred language on personal computer screen, menu display in preferred format on personal computer screen, trust-worthy and minimizes risk in transactions.

3. **Dr. Bhupendra Singh Hada (Apr 2016)** vol 18,Issue 4 Ver II PP10-20 IOSR Journal of Business and Management. "Online Banking and Customer Satisfaction in Public and Private Sector Banks: Evidence from India". In this article main objective is to study banking facilities offered by the selected public and private banks , to study customer satisfaction through online banking and also to examine benefits that is provided to the individual customers under internet banking. They focus on various factor like All time availability, Ease of use ,Everywhere banking, Security, Direct access, Time saving, Comfort of use, Inexpensive, Easy processing, Easy fund transfer. They collect tha respodant from 50 ecah bank and total 4 bank Public sector bank(BOB,UCO)and private bank(Axis , YES) they used statistical technique are chi square and z test. They got the final result is to customer are highly satisfied from private bank services compare to public bank because they are not very well used and they are not aware.

4. **Dr. M. Abdul Hakkeem & Y. Moydheen Sha (May 2015)** IJSR Volume : 4 Issue : 5 "An Empirical Study towards Customer Satisfaction in Internet Banking services with special reference to Tiruchirappalli District" in this research paper the main objective is to study the customer satisfaction in e-banking services and to examine the awareness of internet banking among the customer of banks. And also to analyze the internet banking facilities offered by the banks to its users. With the help of descriptive research design they adopted likert scale structured questionnaire from the 200 customers of 2 differ private and public banks. The statistical tools such as, Chi-square, simple percentage has been used for data analysis. They find that the customer satisfaction is the important factor contributing to the success of service sectors. There is a positive correlation between awareness and occupation. This shows that the business people and private employees were regular users of e-banking. The analysis shows that all the factors equally influence the customer satisfaction.

5. **M.E. Doddaraju (2013)** Global Journal of Management and Business Studies. ISSN 2248-9878 Volume 3, Number 6 (2013), pp. 651-658 "A Study on Customer Satisfaction towards Public and Private Sector Banking Services [with Special Reference to Anantapur District of AndraPradesh].In his survey his choose 4 factor like cost ,convenience ,facility and general factor like modernization. His main objective is to check the customer satisfaction level between private and public sector bank in same. and also identify the service quality dimension. He took 300

sample and applied one way anova test. he concluded that PUS cam maim good relationship with customer and also provide latest news with help of the innovation communication tool. And comparatively private sector can provide better facility in the same.

6. **Rakesh H M & Ramya T J (2014)** In their research paper titled “A Study on Factors Influencing Consumer Adoption of Internet Banking in India” tried to observe the factors that influence internet banking adoption. Using PLS, a model is successfully proved and it is found that internet banking is influenced by its perceived reliability, Perceived ease of use and Perceived usefulness. In the marketing process of internet banking services marketing expert should emphasize these benefits its adoption provides and awareness can also be improved to attract consumers’ attention to internet banking services.

7. **Amruth Raj Nippatlapalli (2013)** In his research paper “A Study on Customer Satisfaction of Commercial Banks: Case Study on State Bank of India”. This paper contain Customer satisfaction, a term often used in marketing, is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is defined as "the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals."Banking in India originated in the last decades of the 18th century. The first banks were The General Bank of India, NOW which started in 1786, and Bank of Hindustan, which started in 1790; both are now defunct. Bank of Bengal, Bank of Bombay and the Bank of Madras, all three of which were established under charters from the British East India Company. For many years the Presidency banks acted as quasi-central banks, as did their successors. The three banks merged in 1921 to form the Imperial Bank of India.

8. **Ms. Nisha Malik & Mr. Chand Prakash Saini (Jul 2013)** In their research titled on “Private Sector Banks Service Quality and Customer Satisfaction” A Empirical Study two Private Sector Banks”. This research paper is an effort to examine the relationship between service quality and customer satisfaction of two private sectors bank of India. Service quality has been described as a form of attitude that results from the comparison of prospect with recital (Cronin and Taylor, 1992, Parasuraman et al, 1985). Gronroos 1982) argued that customers, while evaluating the quality of service, compare the service they expect with perceptions of the services they actually receive. Since financial products offered by various banks are similar by nature then why any particular bank of product of any bank is preferred than others a matter of interest for academician as well as banking industry. They may be difference between customers of public and private sector banks, but why are two banks of one sector being preferred differently by customers. This research study is an effort to find out the answer of these questions.

9. **Mr. Vijay Prakash Gupta & Dr. P. K. Agarwal (2013)** In their research paper “Comparative Study of Customer Satisfaction in Public Sector and Private Sector Banks in India”. This paper gives with the introduction of liberalization policy and RBI's easy norms several private and foreign banks have entered in Indian banking sector which has given birth to cut throat competition amongst banks for acquiring large customer base and market share. Banks have to deal with many customers and render various types of services to its customers and if the customers are not satisfied with the services provided by the banks then they will defect which will impact economy as a whole since banking system plays an important role in the economy of a country, also it is very costly and difficult to recover a dissatisfied customer. Since the competition has grown manifold in the recent times it has become a herculean task for organizations to build loyalty, the reason being that the customer of today is spoilt for choice. It has become imperative for both public and private sector banks to perform to the best of their abilities to retain their customers by catering to their explicit as well as implicit needs. Many a times it happens that the banks fail to satisfy their customer which can cause huge losses for banks and there the need of this study arises. The purpose of this research article is to examine the customer satisfaction among group of customer towards the public sector& private sector banking industries in India. Study is cross-sectional and descriptive in nature. The researcher tries to makes an effort to clarify the Customer Service satisfaction in Indian banking Sector. Descriptive research design is used for this study, where the data is collected through the questionnaire. The information is gathered from the different customers of the two banks, viz., PNB and HDFC Bank located in the Meerut Region,

Uttar Pradesh. Hundred bank respondents from each bank were contacted personally in order to seek fair and frank responses on quality of service in banks. The service quality model developed by Zeithamal, Parsuraman and Berry (1988) has been used in the present study. The analysis clearly shows that there exists wide perceptual difference among Indian (public sector) banks regarding overall service quality with their respective customers, when compared to Private sector banks. Whereas the said perceptual difference in private banks is narrow.

10. **Vijay M. Kumbhar (2011)** In his research paper "Factors Affecting the Customer satisfaction In E-Banking: Some evidences Form Indian Banks". This study evaluates major factors (i.e. service quality, brand perception and perceived value) affecting on customers' satisfaction in e-banking service settings. This study also evaluates influence of service quality on brand perception, perceived value and satisfaction in e-banking. Required data was collected through customers' survey. For conducting customers' survey liker scale based questionnaire was developed after review of literature and discussions with bank managers as well as experts in customer service and marketing. Collected data was analyzed using principle component (PCA) using SPSS 19.0. A result indicates that, Perceived Value, Brand Perception, Cost Effectiveness ,Easy to Use, Convenience, Problem Handling, Security/Assurance and Responsiveness are important factors in customers satisfaction in e-banking it explains 48.30 per cent of variance. Contact Facilities, System Availability, Fulfillment, Efficiency and Compensation are comparatively less important because these dimensions explain 21.70 percent of variance in customers' satisfaction. Security/Assurance, Responsiveness, Easy to Use, Cost Effectiveness and Compensation are predictors of brand perception in e-banking and Fulfillment, Efficiency, Security/Assurance, Responsiveness, Convenience, Cost Effectiveness, Problem Handling and Compensation are predictors of perceived value in e-banking.

11. **Pooja Malhotra & Balwinder SINGH (2009)** In their research paper "The Impact of Internet Banking on Bank Performance and Risk: The Indian Experience". The paper describes the current state of Internet banking in India and discusses its implications for the Indian banking industry. Particularly, it seeks to examine the impact of Internet banking on banks' performance and risk. Using information drawn from the survey of 85 scheduled commercial bank's websites, during the period of June 2007, the results show that nearly 57 percent of the Indian commercial banks are providing transactional Internet banking services. The univariate analysis indicates that Internet banks are larger banks and have efficiency ratios and profitability as compared to non-Internet banks. Internet banks rely more heavily on core deposits for funding than non-Internet banks do. However, the multiple regression results reveal that the profitability and offering of Internet banking does not have any significant association, on the other hand, Internet banking has a significant and negative association with risk profile of the banks.

International Level

12. **Romario Gomachab(June2018)** Journal of Internet Banking and Commerce, vol. 23, no. 2 "THE IMPACT OF MOBILE BANKING ON CUSTOMER SATISFACTION: COMMERCIAL BANKS OF NAMIBIA (KEETMANSHOOP)" In this study they focus on mobile banking towards customer satisfaction. His main objective is to "Investigate the factor affect customer satisfaction of commercial bank offering mobile banking services and to find out the customer expectation from that " he targeted population for this study was customers of the four commercial banks in Keetmanshoop, Namibia, that are currently registered for mobile banking. The banks are namely; Nedbank Namibia, Standard Bank, First National Bank Namibia (FNB) and Bank Windhoek. He took 60 sample from it and they used descriptive statics to summaries data with the help of Mean and standard deviation they calculated depaendant and independent variables.

13. **Kumari Kahandawa, Janaka Wijayanayake (May 2014)** International Journal of Computer and Information Technology (ISSN: 2279 – 0764) "Impact of Mobile Banking Services on Customer Satisfaction: A Study on Sri Lankan State Commercial Bank" in this article they main objective is to factor influencing the satisfaction on mobile banking customers with the help of Technology Acceptance Model (TAM) & Innovation Diffusion Theory (IDT). In these Independent variables like usefulness, ease of use, relative advantage, perception of risk, user's life style, current needs and dependent variables is customer satisfaction towards mobile banking. They used descriptive

survey questionnaire method and quantitative research design. The total respondent is 64 out of 70 means 91% respondent can give proper response for the same. They used Spearman's Correlation Coefficient and their significance values were used for hypothesis testing. They studied positive relationship for hypothesis tested.

14. **Dr. Nazrul Islam,Mohitul Ameen Ahmed Mustafi (DEC 2018)** 13th Annual International Conference - Convergence 2018 on the theme "Applied and/or Interdisciplinary Research: Emerging Economy Perspectives" Factors Affecting Customers' Experience in Mobile Banking of Bangladesh. His main objective is to study the mobile banking system in Private commercial bank and To study the factor concerning the experience towards mobile banking customer in Bangladesh. They took 231 as sample fron different nine bank AB Bank Limited, City Bank Limited, Dhaka Bank Limited, Dutch-Bangla Bank Limited, Eastern Bank Limited, IFIC Bank Limited, Mercantile Bank Limited, Mutual Trust Bank Limited, Jamuna Bank Ltd. and Prime Bank Limited of Bangladesh. And also applied different statiscal technique like mean, tandard deviation, a simple percentage was used to describe the customers experience about the mobile banking in Bangladesh. And they concluded This examination was intended to distinguish the elements concerning the experience of the versatile banking clients in Bangladesh. Factor investigation distinguished five elements identified with the experience in versatile Electronic duplicate accessible at: banking of Bangladesh. The components are: convenient and responsive system, transaction speed and accuracy, reliability, transaction security in ATM booth, and technological difficulty.
15. **Hossain & Hossain(Sep 2015)** World Review of Business Research Vol 5 No.3 PP.108-120 “"Mobile Banking and Customer Satisfaction: The Case of Dhaka City" in this research article his main objective of study "to check relationship between service quality and customer satisfaction and To study the impact of quality on the action loyalty of customer. His independent variables are "service quality, trust, switching cost, demographic environment, and dependant variables are customer satisfaction and customer loyalty. He took 250 respondent randomly from different bank in Dhaka city. they maintain following 25% duch bangle bank users,40% bakash users,20% U cash users,10% M cash users, and also sample consist of 50% of male and female. With help of questionnaire. they collect the data. Descriptive statistics were utilized to abridge information. Mean and standard deviation of service quality dimension just as for other dependent and independent variables had been determined.
16. **Muhsina &Imran(2015)** European Journal of Business and Management Vol.7, No.26, “Factors Influencing Customer Satisfaction of Mobile Banking Services: A Study on Second - Generation Banks”. In this paper the author are focuses on To identify the most influential factors for customer satisfaction of mobile banking of second - generation banks in Bangladesh and other objective are to study the relationship between customer satisfaction and influencing factor and also to study the effects of demographic characteristics on the selected service quality dimensions .To give suggestion for improving mobile banking activities of second-generation banks in Bangladesh. His study on descriptive research design. And primary data questionnaire is method .They randomly took 200sample from private bank in Bangladesh. Here the main 9 independent factor like transaction speed, security and trust, ease of use, ineffective advertisement accuracy of transaction, system availability, responsiveness, convenience and cost, effectiveness and dependant factor is customer satisfaction towards mobile banking user. They use statistical technique multiple regressions with use of SPSS and ANOVA test also applied for better measurement they concluded that these nine factor have strong relationship with the customer satisfaction.
17. **kartikeya bolar (2014)** In their research paper “End-user Acceptance of Technology Interface In Transaction Based Environment “This paper presents Creators and investors of technology need information about the customers' assessment of their technology interface based on the features and various quality dimensions to make strategic decisions in improving technology interfaces and compete on various quality dimensions. The research study identifies the technology interface dimensions as perceived by the end-users in a transaction based environment (viz. Internet banking) in India, using exploratory factor analysis. The influence of these dimensions on the utility of technology interface and hence the usage is examined by Structural Equation Modeling.

The moderating role of user demographics and technology comfort is also tested. Managerial implications are discussed.

18. **Dorra Gherib (2014)** In their research paper titled "Adoption and diffusion of internet banking: case of Tunisian banking sector "tried to observe the embracing of Internet banking in the Tunisian banking industry. The aim is to make out factors that accelerate or slow down the implementation process. The literature review enables identifying a set of variables: organizational, individual and structural. The research methodology used within this study is the case study. Five case studies in banking sector were executed. The sample is shaped by banks that adopted the Internet Baking as a modernization. The analysis allowed the willpower of the related dimensions of the aforesaid variables (competition, perceived benefits, and organizational compatibility). Indeed, this research has exposed some variables that hamper the implementation of technological innovations.
19. **Nabil Hussein Al-Fahim (2013)** In his research titled "An tentative Study of Factors distressing the Internet Banking espousal: A Qualitative Study among Postgraduate Students" tried to find out the factors that affect the internet banking espousal among postgraduate' students in International Islamic University Malaysia (IIUM).Approach- Semi structured interviews with eight informant; four adopters and four non-adopters on postgraduate' students were conducted to explore this issue. The results revealed that adopters and non-adopters realized that internet banking (IB) has quite a lot of benefits and amenities. However, non adopters were concerned about some factors like trust, ease of use, awareness and security. The results also showed that adopters had positive influence on use of online banking and they did not have problems with these factors because they had sufficient knowledge and experience in using online banking. The findings are important to enable bank Executives to have a better understanding of clients' perception to adopt internet banking. This will help banks' managers and owners formulate strategies that could significantly affect IBA among their customers.
20. **Anil Kumar and Manoj Kumar Dash (2013)** In their research paper "Constructing a Measurement in Service Quality for Indian Banks: Structural Equation Modeling Approach"...The aim of this paper is to construct a measure in service quality for Indian banks and establishes a causal relationship of service attributes performance with customer satisfaction. The SERVQUAL model is used. The quantification of service quality led to the attempt to construct an index. The index is constructed using Structural Equation Modeling (SEM) and American Customer Satisfaction Index (ACSI) as the underlying frameworks. The analysis is based on data of 200 bank customers from the Delhi-NCR. An adapted ACSI is enhanced and improved to accommodate two exogenous constructs. The results indicate that service quality variables are important antecedents of customer satisfaction and retention. These antecedents of service quality have a positive significantly relationship with customer satisfaction. The study concludes with an analysis of how different dimensions of service quality performance attribute impact on customer satisfaction and retention. Such a framework should provide valuable insights to the bank manager to identify key service performance indicators and to design more effective and efficient marketing and management strategies to satisfy their customer.

RESEARCH GAP

After a detailed review from different literature on the same line of research , the researcher has identified the following gaps

- The researcher come to know that the similar study conducted by considering different banks , different time period and different geographical area this study includes the respondent from Porbandar which has not been consider any of the previous studies.
- Most of the researches have been conducted on similar variables but variables like post demonetization effect , transaction failure , trust on virtual monitoring transaction , user with limited literacy are not included.

KEY FINDINGS

- Ms. Shilpa D. Dr. Veena K.P(January 2018), in their paper concluded that people are highly satisfied with the use of mobile banking and net banking services provided.

- Sakthivel Murugan M (October, 2017) found that Customers are moderately satisfied with services likeon any day service, instant result of transaction on screen, efficient service, effective service, reduced transaction cost, free from cash carry transactions, safety, privacy, saves time, user-friendly, availability of multifarious services at one's convenient place, menu display in preferred language on personal computer screen, menu display in preferred format on personal computer screen, trust-worthy and minimizes risk in transactions.
- Dr. Bhupendrasinh Huda (2016), concluded that customer are highly satisfied from private bank services compare to public bank because they are not very well used and they are not aware.
- Dr. Bhupendra Singh Hada (Apr 2016) in this paper They got the final result is to customer are highly satisfied from private bank services compare to public bank because they are not very well used and they are not aware.
- Dr. M. Abdul Hakkeem & Y. Moydheen Sha (May 2015) They find that the customer satisfaction is the important factor contributing to the success of service sectors. There is a positive correlation between awareness and occupation. This shows that the business people and private employees were regular users of e-banking. The analysis shows that all the factors equally influence the customer satisfaction.
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- Ms. Nisha Malik & Mr. Chand Prakash Saini (Jul 2013) in this research paper is an effort to examine the relationship between service quality and customer satisfaction of two private sectors bank of India.
- Mr. Vijay Prakash Gupta & Dr. P. K. Agarwal (2013) the researcher has found that The service quality model developed by Zeithamal, Parsuraman and Berry (1988) has been used in the present study. The analysis clearly shows that there exists wide perceptual difference among Indian (public sector) banks regarding overall service quality with their respective customers, when compared to Private sector banks. Whereas the said perceptual difference in private banks is narrow.
- Vijay M. Kumbhar (2011) The researcher has evaluates major factors (i.e. service quality, brand perception and perceived value) affecting on customers' satisfaction in e-banking service settings. This study also evaluates influence of service quality on brand perception, perceived value and satisfaction in e-banking. Required data was collected through customers' survey.
- **Pooja Malhotra & Balwinder SINGH (2009)** The paper describes the current state of Internet banking in India and discusses its implications for the Indian banking industry. Particularly, it seeks to examine the impact of Internet banking on banks' performance and risk.
- Romario Gomachab(June2018) In this study they focus on mobile banking towards customer satisfaction. His main objective is to "Investigate the factor affect customer satisfaction of commercial bank offering mobile banking services and to find out the customer expectation from that.
- Kumari Kahandawa, Janaka Wijayanayake (May 2014) concluded that variables like user-friendliness and relative advantage has a positive impact on satisfaction

- Dorra Gherib (2014) l in the research that the satisfaction towards mobile and internet banking should be analyazed on Individual, Organizational and Structural framework.
- Nabi Hussen Al-Fehim (2013), concluded that the biggest stressing factors towards use of mobile and internet banking is the trust and ease of usage.
- Anil Kumar & Manoj Kumar Dash(2013), concluded in their paper based on SERVQUAL model that banks should pay attention to ease of usage for mobile and internet banking in order to satisfy the bank account holders.

CONCLUSION

Mobile and internet banking is indeed the need of hour and sooner or later that will be that future of banking industry. Organizations like Soft Bank are completely based on this model. India being a market of combination of highly urban and rural society, the use of mobile and internet banking will continue to remain as a challenge. This paper analyzed a number of researches on this line of research and has highlighted the research gap that the researcher wants to bridge in the upcoming detailed research on the topic.

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POCSO ACT & HUMAN RIGHTS – CONTRADICTION UNVEILED

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ABSTRACT

The Protection Of Children From Sexual Offences Act, (POCSO), 2012 is the outcome of The Child Rights Convention, (CRC),1989 that India signed on 11th December, 1992. The Universal Declaration Of Human Rights – UDHR came into existence on the 10th December, 1948. The Protection of Human Rights Act,1993 is the outcome of International covenant on civil and political Rights-ICCPR, 1996. Plethora of offences under POCSO Act is registered in Indian Courts every year. Amongst these cases, many accused are public servants. The offences made out under the POCSO Act against public servants bears charge pertaining to various sections of The Indian Penal Code – IPC, 1860 But in none of the cases in which accused are public servants bear the charge under section - 2(d) of The Protection of Human Rights Act, 1993. A period of more than two decades has passed since the enactment of the said act, we have failed to place to the said act in chargesheet of POCSO Act against public servants.

KEYWORDS

POCSO	-	*PROTECTION OF CHILDREN FROM SEXUAL OFFENCES*
CRC	-	*CHILD RIGHTS CONVENTION*
NCRB	-	*NATIONAL CRIME RECORDS BUREAU*
ICCPR	-	*INTERNATIONAL COVENANT ON CIVIL & POLITICAL RIGHTS*
UDHR	-	*UNIVERSAL DECLARATION OF HUMAN RIGHTS*
IPC	-	*INDIAN PENAL CODE*
ECO SOC	-	*INTERNATIONAL COVENANT ON ECONOMIC, SOCIAL & CULTURAL RIGHTS*
NHRC	-	*NATIONAL HUMAN RIGHT COMMISSION*
SHRC	-	STATE HUMAN RIGHT COMMISSION

INTRODUCTION

India signed the Child Rights Convention (CRC),1989 on 11th December, 1992. As a result for the purpose of effective implementation of the CRC, The Protection of Children from Sexual Offences Act – POSCO was enacted in the year 2012. Since, its enactment several offences are registered in POCSO court under the said act. many accuse are public servants. The charge against them bears various sections of the POCSO Act, along with the relevant sections of The Indian Penal Code – IPC, 1860. But in none of the cases in which accused are public servants bear the charge inclusive of section - 2(d) of The Protection of Human Rights Act, 1993.

PROTECTION OF HUMAN RIGHTS ACT, 1993

For the very first time in the world, Human Rights were declared via The Universal Declaration Of Human Rights – UDHR was neither signed by Socialist Countries nor by Capitalist Countries because it lacked bifurcation of rights into socialist rights and capitalist rights.

In order to resolve the said dispute and to promote uniformity two international covenants were passed in the year, 1966 via International covenant on civil and political Rights-ICCPR, 1996 and International Covenant On Economic, Social & Cultural Rights – ECO SOC.

On the basis of ICCPR, Protection of Human Rights Act, was passed in the year, 1993. Besides this Human Rights was passed in the year, 1993. Besides this Human Rights are given place in part-III rights of the Indian Constitution i.e. fundamental rights.

Section 2(d) of the said act defines human rights as – "Human Rights means the rights relating to life, liberty, equality and dignity of the individual guaranteed by the constitution or embodied in the International Covenants and enforceable by courts in India."[2] As per the said

1 Commentary on the Protection of children form sexual offences act, 2012. Saxena & Saxena, Dwivedi & Company, Allahabad, 2016 Edition, Page No.1.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

2 Civil Minor Acts, By A.K.Banerjee, Dwivedi & Company, Allahabad, 2009 Edition, P.No.1170

definition if the state and functionaries of the state i.e. public servant, public authorities, etc if violates the above mentioned set of rights then they are considered as human rights violators. As per section-30 of the protection of Human Rights Act, 1993 Special courts i.e. court of sessions in every district of the state are designated as Human Rights Courts vide notification. The cases pertaining to the accused that have violated human rights are prosecuted before these Human Rights Court.

HUMAN RIGHTS VIOLATION OF POCSO VICTIMS IN INDIA

Human Rights Of POCSO Victims are violated as they are not considered in India because name of the FIR bears charge against public servants pertaining to Section 2(d) of the protection of Human Rights Act, 1993 in India, activists, child commission, Human Rights Commission, etc show their concern about Human Rights of victims of POCSO cases but none have suggested for in their recommendations to give place to Section 2(d) of the protection of Human Rights Act, 1993 in the FIR. Due to this reason a rosy picture is shown at international plank.

The most astonishing fact to this grim reality is that the National Crime Records Bureau does not disclose any statistical data of accused public servants under POCSO Act. It publishes plain data or general data especially year wise regarding filing of cases and disposal of cases under the POCSO Act. But we often find news in newspapers that government employees committed sexual offences against children.

Many police officers in India do not know about POCSO Act. For e.g. The Deputy Superintendent of Police Mr.Dharmendra Desai who investigated the rape case of a minor girl didn't know about the POCSO Act.[3] The court was astonished as he admitted the same in his cross examination.

In India official records of crime is kept by The National Crime Records Bureau – NCRB. If we go through the website or data published by The National Crime Records Bureau regarding crimes pertaining to The Protection of Children from Sexual Offences (**POCSO**) Act, 2012 then it published only the number of registered cases under the POCSO

ACT, every year. It does not published the data of criminals who are covered under the ambit of Article – 12 of The Constitution of India i.e. Definition of State [4] - In this part, unless the context otherwise requires, "The State" includes the Government and Parliament of India and the Government and the Legislature of each of The States and all local or other authorities within the territory of India or under the control of the Government of India.

We find around us many incident of The Protection of Children from Sexual Offences (**POCSO**) Act's cases reported in media and the accused is a person who comes within the ambit of either definition enumerated in Article – 12 of The Indian Constitution or as provided for in Sections 14 and 21 of The Indian Penal Code – IPC, 1860. These are

i. Section 14 of IPC[5] : Servant of Government –

The words "Servant of Government denote any officer or servant continued, appointed or employed in India by or under the authority of Government."

ii. Section 21 of IPC[6] : Public Servant -

The words "Public Servant" denote a person falling under any of the descriptions hereinafter following namely :

Second – Every Commissioned Officer in the Military, Naval or Air Forces of India;

Third – Every judge including any person empowered by law to discharge, whether by himself or as a member of any body of persons, any adjudicatory functions;

Fourth – Every officer of a Court of Justice (including a liquidator, receiver or commissioner) whose duty it is, as such officer, to investigate or report on any matter of law or fact, or to make, authenticate, or keep any document, or to take charge or dispose of any property, or to execute any judicial process, or to administer any oath, or to interpret, or to preserve order in the Court, and every person specially authorized by a Court of Justice to perform any of such duties;

Fifth - Every juryman, assessor, or member of a panchayat assisting a Court of Justice or public servant;

Sixth - Every arbitrator or other person to whom any cause or matter has been referred for decision or report by any Court of Justice, or by any other competent public authority;

Seventh - Every person who holds any office by virtue of which he is empowered to place or keep any person in confinement;

Eighth- Every officer of the Government whose duty it is, as such officer, to prevent offences, to give information of offences, to bring offenders to justice, or to protect the public health, safety or convenience;

Ninth - Every officer whose duty it is as such officer, to take, receive, keep or expend any property on behalf of the Government, or to make any survey, assessment or contract on behalf of the Government, or to execute any revenue process, or to investigate, or to report, on any matter affecting the pecuniary interests of the Government, or to make authenticate or keep any document relating to the pecuniary interests of the Government, or to prevent the infraction of any law for the protection of the pecuniary interests of the Government;

Tenth - Every officer whose duty it is, as such officer, to take, receive, keep or expend any property, to make any survey or assessment or to levy any rate or tax for any secular common purpose of any village, town or district, or to make, authenticate or keep any document for the ascertaining of the rights of the people of any village, town or district;

Eleventh - Every person who holds any office in virtue of which he is empowered to prepare, publish, maintain or revise an electoral roll or to conduct an election or part of an election;

Twelfth - Every person –

a. in the service or pay of the Government or remunerated by fees or commission for the performance of any public duty by the Government;

b. in the service or pay of a local authority, a corporation established by or under a Central, Provincial or State Act or a Government company as defined in section 617 of the Companies Act, 1956 (1 of 1956).

By reading above definitions and Article as well we do not find the intention of the legislator that any sort of immunity has been granted by the law to the public servants that names must not be publish or data pertaining to them must not be published by The National Crime Records Bureau regarding commission of crime under the The Protection of Children from Sexual Offences (**POCSO**) Act, 2012. Then on what basis The National Crime Records Bureau is granting such immunities to public servants regarding commission of crime under The Protection of Children from Sexual Offences (**POCSO**) Act, 2012; Why The Honorable Supreme Court, The National Human Right Commission - NHRC, The State Human Right Commission - SHRC, The Women Commissions both at the center as well as the state level, are silent regarding such a grave violation of human rights? Moreover, The United Nation are also silent over such a big issue? The said aspect imposes another serious and grave question that is the child rights convention – CRC is wholly implemented in India The answer is negative.

The government of India shows us the rosy picture regarding commission of crimes under The Protection of Children from Sexual Offences (**POCSO**) Act, 2012. The Public Servant Offender under The Protection of Children from Sexual Offences (**POCSO**) Act, 2012. are indirectly supported by The Government.

The POCSO Act deals with mainly five kinds of sexual act as offences. These are as under:

1 Section 3. Penetrative sexual assault.[7]-

A person is said to commit "penetrative sexual assault" if –

(a) he penetrates his penis, to any extent, into the vagina, mouth, urethra or anus of a child or makes the child to do so with him or any other person; or

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

(b) he inserts, to any extent, any object or a part of the body, not being the penis, into the vagina, the urethra or anus of the child or makes the child to do so with him or any other person; or

(c) he manipulates any part of the body of the child so as to cause penetration into the vagina, urethra, anus or any part of body of the child or makes the child to do so with him or any other person; or

(d) he applies his mouth to the penis, vagina, anus, urethra of the child or makes the child to do so to such person or any other person.

7 The Protection Of Children From Sexual Offences Act, 2012. Dr. S.K.Awasthi, CTJ Publication, Pune, 2015 Edition, P.No.165 & 166

For the purpose of this section -

Vagina[8] means – A canal in female, from the valve to the cervix uteri A sheath or sheath like structure, canal in the female leading from the external genital orifice below the pubis of the uterus.

Urethra[9] means – It is the tube by which urine is passed from bladder. In females it is short and opens in frot of vagina. In males urethra is much longer.

Anus[10] means – The opening at the lower extremity of the alimentary canal.

The punishment for the aforesaid offence is embodied in section-4 of the said act[11] - Whoever commits penetrative sexual assault shall be punished with imprisonment of either description for a term which shall not be less than seven years but which may extend to imprisonment for life, and shall also be liable to fine.

2 Section 5. Aggravated penetrative sexual assault.[12]-

a. Whoever, being a police officer, commits penetrative sexual assault on a child-

i. within the limits of the police station or premises at which he is appointed; or

ii. in the premises of any station house, whether or not situated in the police station, to which he is appointed; or

iii. in the course of his duties or otherwise; or

iv. where he is known as, or identified as, a police officer; or

b. whoever being a member of the armed forces or security forces commits penetrative sexual assault on a child-

i. within the limits of the area to which the person is deployed; or

ii. in any areas under the command of the forces or armed forces; or

iii. in the course of his duties or otherwise; or

iv. where the said person is known or identified as a member of the security or armed forces; or

c. whoever being a public servant commits penetrative sexual assault on a child; or

d. whoever being on the management or on the staff of a jail, remand home, protection home, observation home, or other place of custody or care and protection established by or under any law for the time being in force, commits penetrative sexual assault on a child, being inmate of such jail, remand home, protection home, observation home, or other place of custody or care and protection; or

e. whoever being on the management or staff of a hospital, whether Government or private, commits penetrative sexual assault on a child in that hospital; or

f. whoever being on the management or staff of an educational institution or religious institution, commits penetrative sexual assault on a child in that institution; or

g. whoever commits gang penetrative sexual assault on a child.

h. whoever commits penetrative sexual assault on a child using deadly weapons, fire, heated substance or corrosive substance; or

i. whoever commits penetrative sexual assault causing grievous hurt or causing bodily harm and injury or injury to the sexual organs of the child; or

j. whoever commits penetrative sexual assault on a child, which-

i. physically incapacitates the child or causes the child to become mentally ill as defined under clause (l) of section 2 of the Mental Health Act, 1987 or causes impairment of any kind so as to render the child unable to perform regular tasks, temporarily or permanently; or

ii. in the case of female child, makes the child pregnant as a consequence of sexual assault;

iii. inflicts the child with Human Immunodeficiency Virus or any other life threatening disease or infection which may either temporarily or permanently impair the child by rendering him physically incapacitated, or mentally ill to perform regular tasks; or

k. whoever, taking advantage of a child's mental or physical disability, commits penetrative sexual assault on the child; or

l. whoever commits penetrative sexual assault on the child more than once or repeatedly; or

m. whoever commits penetrative sexual assault on a child below twelve years; or

n. whoever being a relative of the child through blood or adoption or marriage or guardianship or in foster care or having a domestic relationship with a parent of the child or who is living in the same or shared household with the child, commits penetrative sexual assault on such child; or

o. whoever being, in the ownership, or management, or staff, of any institution providing services to the child, commits penetrative sexual assault on the child; or

p. whoever being in a position of trust or authority of a child commits penetrative sexual assault on the child in an institution or home of the child or anywhere else; or

q. whoever commits penetrative sexual assault on a child knowing the child is pregnant;

r. whoever commits penetrative sexual assault on a child and attempts to murder the child; or

s. whoever commits penetrative sexual assault on a child in the course of communal or sectarian violence; or

t. whoever commits penetrative sexual assault on a child and who has been previously convicted of having committed any offence under this Act or any sexual offence punishable under any other law for the time being in force; or

u. whoever commits penetrative sexual assault on a child and makes the child to strip or parade naked in public, is said to commit aggravated penetrative sexual assault.

The aforesaid definition covers the Public Servant under its ambit. The punishment for the aforesaid offence is embodied in section – 6 of the said act[13] "Whoever, commits aggravated penetrative sexual assault, shall be punished with rigorous imprisonment for a term which shall not be less than ten years but which may extend to imprisonment for life and shall also be liable to fine"

3 Section 7. Sexual Assault.[14]-

Whoever, with sexual intent touches the vagina, penis, anus or breast of the child or makes the child touch the vagina, penis, anus or breast of such person or any other person, or does any other act with sexual intent which involves physical contact without penetration is said to commit sexual assault.

13 Ibid P. No.290

14 Ibid P. No.291

The punishment of the aforesaid offence is embodied in section – 8 of the said act[15] – Whoever, commits sexual assault, shall be punished with imprisonment of either description for a term which shall not be less than three years but which may extend to five years, and shall also be liable to fine.

4 Section 9. Aggravated Sexual Assault.[16]-

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

a. Whoever, being a police officer, commits sexual assault on a child-

i. within the limits of the police station or premises where he is appointed; or

ii. in the premises of any station house whether or not situated in the police station to which he is appointed; or

iii. in the course of his duties or otherwise; or

iv. where he is known as, or identified as a police officer; or

b. whoever, being a member of the armed forces or security forces, commits sexual assault on a child-

i. within the limits of the area to which the person is deployed; or

ii. in any areas under the command of the security or armed forces; or

iii. in the course of his duties or otherwise; or

iv. where he is known or identified as a member of the security or armed forces;

c. whoever being a public servant commits sexual assault on a child; or

d. whoever being on the management or on the staff of a jail, or remand home or protection home or observation home, or other place of custody or care and protection established by or under any law for the time being in force commits sexual assault on a child being inmate of such jail or remand home or protection home or observation home or other place of custody or care and protection; or

e. whoever being on the management or staff of a hospital, whether Government or private, commits sexual assault on a child in that hospital; or

15 Ibid P. No.292

16 Ibid P. No.293 to 295

f. whoever being on the management or staff of an educational institution or religious institution, commits sexual assault on a child in that institution; or

g. whoever commits gang sexual assault on a child.

h. whoever commits sexual assault on a child using deadly weapons, fire, heated substance or corrosive substance; or

i. whoever commits sexual assault causing grievous hurt or causing bodily harm and injury or injury to the sexual organs of the child; or

j. whoever commits sexual assault on a child, which-

i. physically incapacitates the child or causes the child to become mentally ill as defined under clause (l) of section 2 of the Mental Health Act, 1987 or causes impairment of any kind so as to render the child unable to perform regular tasks, temporarily or permanently; or

ii. inflicts the child with Human Immunodeficiency Virus or any other life threatening disease or infection which may either temporarily or permanently impair the child by rendering him physically incapacitated, or mentally ill to perform regular tasks; or

k. whoever, taking advantage of a child's mental or physical disability, commits sexual assault on the child; or

l. whoever commits sexual assault on the child more than once or repeatedly; or

m. whoever commits sexual assault on a child below twelve years; or

n. whoever, being a relative of the child through blood or adoption or marriage or guardianship or in foster care, or having domestic relationship with a parent of the child, or who is living in the same or shared household with the child, commits sexual assault on such child; or

o. whoever, being in the ownership or management or staff, of any institution providing services to the child, commits sexual assault on the child in such institution; or

p. whoever, being in a position of trust or authority of a child, commits sexual assault on the child in an institution or home of the child or anywhere else; or

q. whoever commits sexual assault on a child knowing the child is pregnant; or

r. whoever commits sexual assault on a child and attempts to murder the child; or

s. whoever commits sexual assault on a child in the course of communal or sectarian violence; or

t. whoever commits sexual assault on a child and who has been previously convicted of having committed any offence under this Act or any sexual offence punishable under any other law for the time being in force; or

u. whoever commits sexual assault on a child and makes the child to strip or parade naked in public, is said to commit aggravated sexual assault

The aforesaid section deals with the public servant. The punishment for the aforesaid offence is embodied in section – 10 of the said act[17] Whoever, commits aggravated sexual assault shall be punished with imprisonment of either description for a term which shall not be less than five years but which may extend to seven years, and shall also be liable to fine.

5 Section 11. Sexual Harassment.[18]-

A person is said to commit sexual harassment upon a child when such person with sexual intent,-

i. Utters any word or makes any sound, or makes any gesture or exhibits any object or part of body with the intention that such word or sound shall be heard, or such gesture or object or part of body shall be seen by the child; or

ii. Makes a child exhibit his body or any part of his body so as it is seen by such person or any other person; or

iii. Shows any object to a child in any form or media for pornographic purposes; or

iv. Repeatedly or constantly follows or watches or contacts a child either directly or through electronic, digital or any other means; or

v. Threatens to use, in any form of media, a real or fabricated depiction through electronic, film or digital or any other mode, of any part of the body of the child or the involvement of the child in a sexual act; or

17 Ibid P. No.295

18 Ibid P. No.297 & 298

vi. Entices a child for pornographic purposes or gives gratification therefore.

The punishment for the aforesaid offence is provided for in section – 12 of the said act[19] - Whoever, commits sexual harassment upon a child shall be punished with imprisonment of either description for a term which may extend to three years and shall also be liable to fine.

Despite of stringent and specific provisions made pertaining to commission of the offences enumerated under the penal provision of the act, public servant are granted illegal immunity from escaping about Human Rights Violation.

VIEWS OF JUDGES REGARDING HUMAN RIGHTS

The judges of Human Rights Courts are of the view that as victims of the POCSO Act are provided compensation from The Victim Compensation Fund, the addition of Section-2 (d) of the said of the protection of Human Rights Act, 1993 in FIR does not make any difference practically, If Section-2 (d) of the said act is added in the FIR then the accused is officially considered as Human Rights violator If the case against such accused is proved. Moreover, the real picture of public servants regarding protection of Human Rights in POCSO cases will come out.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

CONCLUSION

Providing of Human Rights becomes meaningless If they are not considered in each & every sphere. Mere speaking and propagating about Human Rights do not serve the purpose As Section 2 (d) of the Human Rights act is not given place in FIR, India has become the safe haven country for Human Rights violator of POCSO offences. The said situation has given rise to promotion of Personal Justice Instead of Public Justice. Actually, personal justice as well as Public Justice both is the need of an hour.

19 Ibid P. No.316

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Vol.40-Issue.89-March, 2020

DYSFUNCTION WITHIN MANKIND - A BIGGEST CHALLENGE BEFORE THE UNITED NATIONS

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ABSTRACT

It is universal reality that everything in cosmos or our universe whether living or non-living is made of five things viz., air, water, fire, earth and space (also known as panchmahabhut) knowledge, control and recognition of these five elements within human beings is essential for their own existence and also for the existence of others. In yogic culture are wholly emphasized. But modern day human beings have nothing to do with it. Most of the people all over the world do not even know about these five elements. The absence of knowledge, control and recognition of these five elements make human beings merely a spiece. Their importance in nature is lost. The United Nations on is formulating various conventions, covenants, declarations for human beings on this planed are not human beings but merely a spiece, the efforts of The United Nations in promoting world peace, universal development, gender equality, etc goes in vain.

KEYWORDS

UN - UNITED NATIONS

PANCHMAHABHUT - FIVE ESSENTIAL ELEMENTS OR

ESSENTIAL LIFE ENERGY FORMS VIZ, AIR, WATER, LAND, FIRE AND SPACE

INTRODUCTION

The universe has its own way of operation. How it operates is not even known exactly towards. Whatever is know about our universe till date is that the law of nature prevails in universe. A part from others, the law of nature is wholly applicable to human beings. Science is not about the law of nature. Even science is handicapped before the law of nature. Sustainable living means to lead a life by establishing positive correlation with the law of nature. The positive correlation with the law of nature can be established only when human beings recognize, control and possess the knowledge about these five basic elements. By not recognizing, controlling and possessing knowledge about these five basic elements, no human being can know what he/she himself/herself is. Then the question of knowing, understanding others do not arise. Therefore, question of sympathy, compassion, dignity, etc becomes a mere phenomenon. Such human being are empty human beings. Their contribution to could the law of nature is nil. Therefore, struggle always remains open for The United Nations for striving its varied goals.

PERCEPTION AS A CRITERIA OF MEASUREMENT

Modern day human beings know themselves as well as others through perception, there are five sense organs present in human body viz, nose for smelling, eyes per seeing, ears for hearing, tongue for testing and skin for feelings. That helps human beings to perceive. Modern day human beings do not know the role of these essential five elements in perception. For e.g. science says that 7 to 8 hours of daily sleep is essential for sound functioning of human body. But for a man who possesses knowledge, who has control and who has recognized these five essential elements (even though through his limited knowledge), the body of such person needs rest ranging from 2 to 3 hours a day. the man who follows science spends approximately 40% of his life in sleeping and the later spends hardly 10% of his life in sleeping. All great people like Nicholas Telsa, Leonardo Davinci, etc used to take rest rather than sleep.

When a life is wholly based on perceptions, standard are set for each and every aspects and reality is ignored. As we live in nature, we encounter continuous interactions with others (including living and non-living) Due to above deficit we do not give recognition to others because we have not recognized ourselves completely.

The life based on perception has given the outcome of positive thinking, rather than encountering reality. For e.g. thousands of cells in our body die daily. The phenomenon of death occurs daily in human body. But the said reality of death is not accepted by positive thinkers another classic example is

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

that the failure leads to success. The person who grasps his failure may lead to success one day. Positive thinkers are not able to grasp failure. In other words life life against the law of nature brings depression, stress, anxiety, etc in human being. Due to this reason, if a student fails in a particular class, the word "Fail" is not written in his/her result and in its place words "Needs Improvement" are written. For such students, the path of success is closed forever. India's late president, Dr. A.P.J. Abdul Kalam had once said that, "If you want to succeed in life then don't read success stories, read failure, it will teach you how to succeed."

If any of these essential five elements is out of balance, then it causes various, ailments, diseases, etc. Thus, for a healthy being, it becomes necessary to maintain the balance between them[1]

THE ESSENCE OF YOGA AND YOGIC CUTURE[2]

The word Dysfunction is of science parlance. It means improper functioning of bodily organs. But here dysfunction means lateral shift found within the nature and perception of human beings from its very root cause. Yoga is the way or means that keeps the bondage of very real nature of human beings with its root cause. The present day life of human beings yoga means doing or performing couple of asana. Human Being can know about the very basic purpose of life by performing yoga and by involving themselves to be a part of yogic culture. What we experience through our perception is not the reality. We can know the reality by practicing yoga and by adopting yogic culture.

Yoga is an exact science. The science that knows about the origin of universe and the reason behind our existence. If we do not know about our existence we become pathless and directionless. That is what amongst many of us is. By knowing about the very essence of Yoga one can know about the essence of karma. By doing so it would not be necessary to teach human being morality, values, etc. But without yoga human beings are taught morality, human values, etc. The result is zero because the basic life energy forms remain untouched and unexplored in absence of yoga and yogic culture.

By practicing yoga and leading a yogic culture human beings reach to that state where in he/she is able to bifurcate what is right and what is wrong. They are able to know about their inner voice that is based on morality. They gain tremendous control over their mind. This helps them in resolving problems. Divine life is feasible. Human Beings are able to make self analysis. This is what the spiritual way of life is.

The human body is made up of two dimensions viz., Matter and Spirit. The process of self realization can be achieved only through yoga. By practicing yoga the vital energies in our body moves from lower regions to higher regions. Without yoga, these channels are blocked. When such channels are opened with the help of yoga human beings experiences the life totally in a different manner.

By self – realization the method and manner of living changes. Their makes the principle of "Live and let others Live" feasible in reality. By practicing yoga and adopting yogic culture people starts consuming yogic diet. So it would not be necessary to teach human being morality, values, etc. The result is zero because the basic life energy forms remain untouched and unexplored in absence of yoga and yogic culture.

By practicing yoga and leading a yogic culture human beings reach to that state wherein he/she is able to bifurcate what is right and what is wrong. They are able to know about their inner voice that is based on morality. They gain tremendous control over their mind. This helps them in resolving problems. Divine life is feasible. Due to this spreading of Universal love becomes feasible. Human Being are able to make self analysis. This is what the spiritual way of life is.

The human body is made up of two dimensions viz., matter and spirit. The process of self-realization can be achieved only through yoga. By practicing yoga the vital energies in our body moves from lower regions to higher regions. Without yoga, these channels are blocked. When such channels are opened with the help of yoga human beings experiences the life totally in a different manner.

[1] https://www.yogajournal.com

[2] https://www.disha.org

By self-realization the method and manner of living changes. This makes the principle of "Live and let others Live" feasible in reality. By practicing yoga and adopting yogic culture people starts consuming yogic diet. It is a diet that destroys Tamas in human body. By the destruction of Tamas, various feelings like anger, lush, anxiety, seduction, etc destroys. This gives rise to crime Free State what actually United Nations as well as many peace loving nations desire and strive for it.

Various problems are not solved by passing a specific legislation for specific problem and penalizing the accused for the same. For e.g. Nirbhya Gang Rape accused were hanged to death. By doing so the accorance of such incident gets over. The answer is negative. But at the same time if society is switched on to yoga and towards vedic culture then surely we have righteous society. In other worlds law and taking penal actions are not the solutions to the problem. These and many other problems can be solved form their root cause when realization of soul takes place within the human beings.

In children and youths we find the main problems like lack of awareness and concentration. Due to this they cannot perform well in their academic careers. Such students can be easily diverted to evils like pornography, drug addictions, gambling, etc. Medicines are not the remedy to cure such problem. The answer to these problems is practicing of Pranayama. The Pranayama are nothing but varieties of breathing techniques that helps to gain deep concentration and creates such form of awareness that is beyond physical body.

Real happiness and pleasure do not lie in paying huge hospital bills. Real satisfaction does not lie in getting admitted in 7 stars hospitals abroad. Real happiness and pleasure lies in remaining healthy. Any blockage in essential life energy forms leads us to illness. Yoga helps to rejuvenate essential life energy forms from the subtle level.

The main problem before the entire world is not whether human beings are consuming qualitative food. The entire world is in dilemma of consuming healthy and qualitative food. Their perception of health and quality is what is said by marketers of the products through advertisings. If the entire world is consuming healthy and qualitative food supplied by the companies then why they are falling ill? Why the number of hospitals is increasing? etc. Their perception is so because they consider that whatever they consume must promote their health and if any problems arise then there must be medicine available. This is entirely a wrong perception which is labeled by them as right.

If a person is not healthy then he/she suffers from various ill feelings like anger, depression, anxiety, lust, etc. Such persons also affect all the persons in whose contact he/she comes or communicates. In this way, entire society is affected.

The real way of leading humanitarian life include aspects like non-hurting others, compassion towards other, to be truthful, to forgive others, to maintain modesty and dignity of others especially of women and elders, etc. These qualities cannot be developed merely by teaching the syllabus. The biggest mistake that United Nations have made is that it has opted the tool of education for bringing aforesaid qualities within mankind. Therefore, it failed.

Another important aspect that dysfunction exists in human beings because of their attitudes. If real attitude is created for knowing the things then we shall not consider the things as they are or as they are considered by others. Most of the people in the world are indulged in positive thinking and negative thinking aspects i.e. two aspects of thinking. If we talk of death before such people then they are not able to tolerate it and consider such person as negative thinker because he talks of death. Anything that is perceived by sense organs will result into either positive or negative. Yoga is beyond sense organs. There after performing and practicing Yoga in a right manner and for a long time one will be able to recognize the thing as they are. Such person can even enjoy the death as death is universal reality.

Practically there exists nothing like positive thinking or negative thinking. If a glass is half failed with water it means that later half of it is empty if a person says that a glass is half filled with water then positive thinkers will appreciate him saying that a person is positive thinker. If another person says that a glass is half empty then positive thinkers criticize such person as he thinks negative. Such bifurcations further give rise to optimism and pessimism. Generally, positive thinking is associated with optimism and negative thinking is associated with optimism and negative thinking is associated with pessimism. This is not the end. The said bifurcations still goes on. But a yogic person will say that water is a universal solvent. It is shapeless and colorless. How much it has filled the glass and how much portion of the glass is empty depicts the psychology of the person who has filled the glass. Thus, one can come to know about the truth.

Each and every thing is universe is made up of energy. We come in contact with different energies throughout our life span. Perception is not at all useful for such interaction. All these energies have their own unique vibrations. We can purify our energies through Yogas and Pranayama. In Yogic culture it is known as Aura. There are millions of shades of Aura ranging from pure white to dark black. Each energy has its own unique aura. For this purpose there is nothing but the Yoga.

Aura cannot be cleansed or purified by studying text. Pure and perfect science i.e. Yoga is needed to do so. So, one who is not a spiritual being cannot become a human being as far as yogic culture is concerned. As far as science is concerned one is human being by birth he/she posses the very characteristics of human beings. The United Nations are trying to accomplish its goals of achieving worlds peace, universal brotherhood, providing human rights, creating humanitarian ideology among people, etc by the later means. Therefore, it has failed all the times.

In India, Yoga and Yogic culture is mostly followed by Sadhu and Sanyashis. The United Nations initially had not given recognition as to the importance of Sadhu and Sanyashis for contributing towards mankind. But due to its successive Failures, it has now understood the importance that the knowledge that Sadhu and Sanyashis possess is not possessed by science. Science is manmade whereas former is the Universal reality of cosmos.

Even each word has specific role to play in bringing and bonding the society. For e.g. Swami Vivekananda went to Chicago for the world Religious conference. Everybody laughed at him because of his apparel. But at the time of initiation of his speed he uttered the words “My dear Brothers and Sisters of America” Instead of words “ladies and gentlemen”. The words ladies and gentlemen have no feelings of nearness or clseness. Whereas the words my dear Brothers and Sisters brings each and every human beings close to each other. The feelings of brotherhood cannot be cultivated among human beings by conducting long lectures or teaching the same in syllabus. It can be even taught by addressing human beings as our own fellow beings. Until and unless this is not found among human beings each and every human being suffers from dysfunction. This kind of dysfunction is the basic life energy forms within him/her. It is not at all cured by medicines. Yoga is the only means or medicine to cure it.

The present day situation before all of us is that parents are not ‘able to understand their children, children are not able to understand their parents, husband is not able to understand his wife, wife is not able to understand her husband, colleagues are not able to understand each other, etc is not found because of gender gap or communication gap or age gap. It is because we have forgotten that we are human beings. We have forgot that what are the essential qualities of human beings. We have forgotten that what are our responsibilities towards ourselves, towards our own family, towards our friends, peers, society, etc. With such human beings it is ever possible to create a just society as United Nations is trying to create. The modern day human beings do not give recognition to their own real identity. Therefore, we cannot expect from them to give recognition to identity of others. Destruction of culture may not lead to the dead end of mankind. But destruction of universal reality will surely lead the mankind towards its dead end. This is happenings how.

The United Nations are trying to bring universal uniformity in manner, way of thinking, creating perceptions, knowledge i.e. academic, etc. This is the major reason of its failure. Thus, the biggest challenge is faced by The United Nations to make human beings a human being first. Till now none of its tools have proved effective. The tool that is effective means Yoga is not considered wholly by The United Nations. Mere formulation and implementation of conventions, covenants, etc do not serve the purpose because they are meant for human beings and human beings are the epicenter of them.

THE CHALLENGE BEFORE THE UNITED NATIONS

Most of the people on earth live their lives against the law of nature. Such people are not able to accept ultimate universal realities. Such people perceive the things and happenings

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Vol.40-Issue.89-March, 2020

as per their own perception rather than seeing reality engaged with such things or happenings. It is due to this reason the fruits of development are not reaped by most of the people. It is due to this reason the quantum of destruction, pains, sufferings, agony, etc are more as compared to development.

The most of the people have forgotten to be a human being first. Whatever action plans, conventions, covenants, etc are framed by UN is framed for human beings. All these becomes meaningless because, before framing such action plans, conventions, covenants, etc it has become essential to teach human beings to be human beings. For e.g. amongst these five essential elements, space is considered as the mother of these elements. 99.9999% of cosmos or universe is empty i.e. space and so do the same percentage of emptiness is found in each and every cells of human body. Not only human body but in each and every species we find the same. This is universal reality. But the so called human beings consider the solid aspect of our cells and not the empty aspect. As most of the human beings are devoid of reality, so do the humanity. Due to this reason, the efforts of UN fails further leading to failure in goal achievement.

If we analyzing the education system all over the world then we come to know that each and every education system is based on gaining knowledge and creating lust for materialism. None of the education systems in the world are centered at building intellectual capacities lying within a child. When knowledge is devoid of intellect, the result is zero as we see how.

Education is a key to success. The said success is success regarding achievement of different kinds of lusts amounting to materialism. It is the education that makes human being really a human being. But due to lack of intellectual capacity building the contribution of education is maintaining and preserving humanity within human beings has become nil. Due to this reason, we find around ourselves degree holder uneducated.

The impact of such education on student is students are not at all interested in studies. They are merely attracted in achieving degrees because of lack of element of intellect. This makes entire education system a commercialized one. The question around the educationalists all around the world is that why present day students have no interest in studies? Why they are merely interested in getting degrees and labeling themselves as educated, etc present day students find the modern education as boring It generates a lot of stress and tensions among them. Many of them even commit suicide due to such tension, boredrum and stress. It is all due to education is devoid of intellect.

The answer to the above problem lies in Vedic education which is an essential part of any type of education. But the same is not considered for e.g. Vedic mathematics is very easy for students and it shapes up and sharpens the intellect of students but it is not at all considered. Instead of this the methodology adopted is solution of mathematical problems with the help of either machines or by way of lengthy calculations both these hampers the brain in a negative manner. Thus, intellectual side of students remains untouched and unexplored even though the number of academic qualifications achieved by the students. The devastating outcome of the above is that we cannot expect humanity, basic human understanding, rationalism, etc form the modern day youths. The modern day education system is responsible for creating self-centered youths bearing qualities of ego, hyper-ego, self centrism, individualism, etc and lacks sympathy, humanity, compassion, very essence of mankind, etc. It is not at all possible for the United Nations to fulfill its varied goals through such youths.

The said problem is found everywhere because the numbers of unjust people all around the world have increased in comparison of just people. Despite this most of the countries including the United Nations calculates the happiness and publishes their happiness reports respectively. It imposes a serious question that happiness of whom? Just people or unjust people. On one hand the principle of "EQUALITY AMONG EQUALS" is adopted and on the other hand no bifurcation is made in calculating happiness among just people and unjust people. This is how a rosy picture is shown all over the world. It is done in order to hide own faults, mistakes, shortfalls, defects, etc. The problem does not get finished by this. This is the starting point and the root cause of each and every problem.

The degree of availability of justice and the satisfaction of getting justice is not at all taken into consideration in Happiness Report. Whereas impartial justice, access to justice for all and immediate availability justice to all is the essence of democracy and also one of the goals of the UN. None of the

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

countries in the world measure that just people get justice or the unjust people get justice. Naturally, the answer is the later one. As the final conviction rate is negligible the later gets the justice. Practically, unjust people all over the world are very happy and just people all over the world are extremely unhappy.

The relation of justice to happiness is totally different of just people as compared to that of unjust people. The said criteria are not at all covered under the happiness report. Because all are helpless for their own follies similarly, what is justice? According to just people is totally different as compared to that of unjust people. The aspects or elements of justice suit the unjust persons. Therefore, its outcome will naturally, make unjust people happy. The present day situation faced by the United Nations is such that in order to hide one problem several other problems are needlessly promoted. The United Nations is trying to create a just society with unjust people, which according to the jurists all over the world is not feasible task. The solution to the problem is itself a problem that is being faced by The United Nations.

CONCLUSION

The present day need is to teach human being to become a human being first. In order to become a human being it becomes necessary to follow the law of the nature. The law of the nature can be followed by recognizing controlling and bearing knowledge over the five essential elements viz., air, water, land, fire and space. As this basic natural aspect is ignored, the effort of The United Nations goes in vain. It further imposes a biggest challenge before The United Nations for its goal achievement.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

A STUDY ON SIGNIFICANT DIFFERENCES IN "EMPLOYEE ENGAGEMENT & LOYALTY BETWEEN MALE AND FEMALE FACULTIES WORKING IN PRIVATE UNIVERSITIES" –WITH REFERENCE TO SELECTED UNIVERSITIES

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ABSTRACT

The current paper is an attempt by the researcher to probe into the differences regarding employee loyalty and engagement that might be present among genders. The paper focuses only into the faculties of private universities. The reason for choosing faculties as respondents is that the education industry is developing by leaps and bounds in India and there has been a considerable increment in the number of universities getting established in India along with a considerable rise in number of faculties being employed. These private universities have challenges like delivering quality education, delivering quality administrative tasks and audits. The aftermath effect of these challenges is that, the job of employees of private universities has become multifaceted and involves a considerable amount of cross skills. The researcher hence wants to study the differences between male and female faculties in their level of employee engagement and loyalty. The paper deals with a sample size of 100 faculties from selected private universities in the regions of Gujarat, Maharashtra, Punjab and Haryana who have agreed to be a part of this study. The findings of this research might lead to new avenues of research to understand how and why the two different genders show different levels of employee engagement and loyalty.

Keywords: Employee Engagement, Employee Loyalty

INTRODUCTION

India's higher education framework is the third biggest on the planet, close to the United States and China. The principle administering body at the tertiary level is the University Grants Commission, which implements its guidelines, exhorts the administration, and helps arrange between the middle and the state. Accreditation for higher learning is managed by 15 independent foundations built up by the University Grants Commission (UGC).

The Indian Higher Education has shown a mammoth increment in enrollment of students, rolling out of new colleges and universities in the past entire decade. The reasons behind this incredible growth are multiple. Some principle reasons mainly are the uprising of upper middle class who can afford the higher education system, the continuous efforts by the Government of India to make the people aware about the importance of higher education, the rise in employment opportunities at middle level management jobs etc.

Number of "State Private Universities" expanded from only 14 of every 2008 to 235 of every 2016. These foundations are established by the State council however subsidized by private advertisers (frequently business gatherings). In eight years, India included more than 18,000 new schools. These showing schools (open or private) are partnered with colleges which direct tests and grants degrees. In eight years, number of under-graduates in Indian colleges and schools multiplied to arrive at 28.5 million understudies. The development in ace's and doctorate level is more slow that the general enlistment development.

These developments have increased a considerable rate of employment in teaching and non-teaching positions in the colleges, institutes and universities. The number of private universities in India has increased considerably and as compared to Government funded universities, these private universities provide a wider employment opportunities.

However, the jobs of teaching staff in these private universities are multifaceted including the roles of teaching, researching, mentoring, corporate placements, administrative duties, promotions etc. These multiple roles have increased the burden of learning and demonstrating new skills among the teaching staff.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

The researcher, given this scenario, wants to understand the level of differences among the employee engagement and loyalty among the male and female faculties. In order to understand the research area, it becomes utmost necessary to first understand the meaning of employee engagement and employee loyalty.

Schmidt (1993) defined employee engagement as “"the harnessing of organisation members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances.” Since then, many experts have define employee engagement in different ways, however it can be simplified as following:

“Enthusiastic association a worker feels toward their business association, which will in general impact their practices and level of exertion in business related exercises. The greater commitment a representative has with their organization, the more exertion they set forth. Worker commitment likewise includes the idea of the activity itself - if the representative feels intellectually invigorated; the trust and correspondence among representatives and the board; capacity of a representative to perceive how their own work adds to the general organization execution; the chance of development inside the association; and the degree of pride a representative has about working or being related with the organization.”

Employee loyalty on the other hand is defined by experts as a product of employee engagement. A considerable amount of experts believe that if the employee or worker is engaged with the organization strongly, shows organizational citizenship behavior and is also aware of his productive contribution to the organization, then the employee tends to show higher loyalty to the organization.

REVIEW OF LITERATURE

Arti Chandani.(2016) in the paper “A review on factors leading to employee engagement”, survey 200 respondents from different organization in order to understand the common behavior and traits found in the employees showing higher employee engagement. The paper lead to conclusion that the common traits that are seen in employees showing high employee engagement are recommending the organization to others, praising peers in public, not entering into unhealthy competition with employees, etc.

Preeti Thakur. (2014) in a research identified that, work motivation could be improved through increasing job authority and accountability. At the clerical level, rewards and sanctions are significantly associated with job involvement.

Dr. Bhagirathi Nayak. (2016) noted that the hierarchical achievement relies upon worker's profitability which is quickened through representative's dedication towards his association.. The paper makes an endeavor to consider the various components of worker commitment with the assistance of survey of writing. This can be utilized to give a diagram and references on a portion of the reasonable and pragmatic work embraced in the territory of the representative commitment rehearses in an assembling organization in India. In this investigation in an assembling organization, the elements contributing towards efficiency and its general effect on the association is estimated through the information gathered by method for survey. The fundamental goal of the examination was to dissect and decipher the effect of representative commitment on accomplishment of the organization utilizing both essential, optional information. The investigation utilizes the 6 Cs of representative commitment out of 10 Cs characterized by Gambler (2007) to gauge worker commitment with intriguing ends.

Li Sun. (2019). mentioned that The influencing factors of employee engagement are divided into three categories: organizational factors (management style, job rewards, etc.), job factors (work environment, task characteristics, etc.) and individual factors (physical energies, self-consciousness, etc.). Employee engagement is found to have a positive relationship with individual performance (organizational commitment, positive behavior, etc.) and organizational performance (customer satisfaction, financial return, etc.)

RESEARCH METHODOLOGY:

Objectives of the study:

1) To understand the significant differences in employee engagement and loyalty among male and female faculties of private universities

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

2) To understand the organizational measures taken by private universities that influence the employee engagement level positively.

Type of Research
The type of research followed by the researcher in the paper falls under the Exploratory research type.

Sample size:
100 faculties

Sampling Method:
The method of non probability convenient sampling was used.

Research Premise:
The researcher after studying the literatures on employee engagement narrowed down the following factors that show the level of employee engagement and loyalty.

a) Self assessment of job satisfaction level

b) Recommending the organization to outsiders

c) Organizational citizenship behavior

d) Congruence between personal and organizational growth

e) Sense of job security

A questionnaire was then prepared and administered to 50 male and 50 female respondents containing questions, which gauge the above said factors. The responses then were tabulated and hypothesis testing was conducted.

Hypothesis Testing and Analysis:

A full fledged questionnaire (as attached in the annexure) was administered to the respondents gauging responses on various qualitative and quantitative parameters to judge the differences in employee engagement and loyalty. Chron bach Alpha test was run over the data in order to check the reliability of the same. The following was the result:

TABLE 1: ChronBach Alpha Test Result

K	**10**
Sum(var)	**14.3152**
Var	**57.4771**
alpha	**0.834379**

As the alpha value is 0.834379, it can be interpreted that the data is reliable and testing the data would lead to reliable results.

In order to satisfy the objective 1 of the research, the following hypotheses was framed:

H=0 There is no significant difference in the sense of employee engagement and loyalty among male and female faculties of private universities

H=1 There is a significant difference in the sense of employee engagement and loyalty among male and female faculties of private universities

The researcher had asked questions regarding the factors that show the level of employee engagement and loyalty of the employees. The following were the responses of male and female faculties respectively

TABLE 2: Responses of Male faculties

Statements/Questions	**SA**	**A**	**N**	**D**	**SD**
I would rate my satisfaction level towards my institute as very high	41	7	0	0	2
I do not hesitate in expressing my opinion with my boss	36	9	0	1	4
I feel I should not praise my peers or else my boss will feel	32	12	1	0	5

they are better than me					
I do not have sense of insecurity while giving credit to my peers for their good job	32	10	1	1	6
I think its not good to criticize my institute in public	34	8	2	2	4
I do not mind putting some extra hours of work during crisis	27	14	2	2	5
I feel my working environment is good enough for me to perform well	25	17	2	2	4
I would recommend my institute as great place to work	15	17	2	5	11
I look forward to come to work most of the days	37	11	1	0	1
I consider the growth of my institute as my personal growth	31	16	0	2	1

TABLE 3: Responses of Female faculties

	SA	A	N	D	SD
I would rate my satisfaction level towards my institute as very high	37	11	0	2	0
I do not hesitate in expressing my opinion with my boss	32	12	0	2	4
I feel I should not praise my peers or else my boss will feel they are better than me	37	6	0	2	5
I always have a sense of insecurity while giving credit to my peers for their good job	33	9	1	2	5
I think its not good to criticize my institute in public	36	11	0	2	1
I do not mind putting some extra hours of work during crisis	26	19	1	3	1
I feel my working environment is good enough for me to perform well	28	15	1	3	3
I would recommend my institute as great place to work	15	19	1	11	4
I look forward to come to work most of the days	27	19	0	2	1
I consider the growth of my institute as my personal growth	32	13	1	2	2

As per the responses, the researcher had used t-test to test the hypothesis and the results were as follow:

Table 4: T-test analysis

	Variable 1	***Variable 2***
Mean	37.68	42.78
Variance	54.91591837	49.11387755
Observations	50	50
Pooled Variance	52.01489796	
Hypothesized Mean Difference	0	
Df	98	
t Stat	-3.535707299	calculated
P(T<=t) one-tail	0.000311407	
t Critical one-tail	1.660551217	
P(T<=t) two-tail	0.000622815	
T Critical two-tail	1.984467455	tabulated

Interpretation

As it was seem from the analysis that the calculated value is greater than the tabulated value which leads to interpret that the null hypothesis stands rejected. To put in simple words, it can be said that there is a significant difference between the employee loyalty among male and female faculties.

A soft survey was done by the researcher to understand the possible causes of the same and the following causes were identified:

a) Female faculties have home responsibilities simultaneously which leads to lack of focus on work.

b) Most of the female faculties consider their career as secondary career to support the household and depend more on the income and salaries of their male counterparts.

c) Male faculties tend to think more on career jumps and switching of jobs rather than dedication and loyalty towards a single organization.

CONCLUSION

This examination affirmed that there are a couple of boundaries of the reliability of representatives subject to instruction, sexual orientation and age, and the segment of business, for example the private or the open division. The example included workers of the private and the open area in Croatia. The consequences of the exploration introduced in this paper can be utilized as rules for creating the executives of the devotion of workers in the Republic of Croatia. The aftereffects of the examination can likewise give direction to additionally research of key boundaries of the devotion of representatives.

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TEACHING AND LEARNING WITH MODERN TECHNOLOGY

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ABSTRACT

Education was once not available in certain parts of the globe.

Even in countries where there was education, there have been still many issues with getting it to the overall public. Inventions like the web class room have improved education during a significant way and it's growing round the world a day. Technology has surely changed the way we live. It has impacted different feature of life and redefined living. Undoubtedly, technology plays a crucial role in every aspects of life.

Several manual tasks are automated, due to technology. Also, many complex and important processes is applied with ease and greater efficiency with the assistance of recent technology. Due to the applying of technology, living has changed and it's changed for better. Technology has revolutionized the sector of education.

The importance of technology in schools can't be ignored. In fact, with the onset of computers in education, it's become easier for teachers to impart knowledge and for college kids to amass it. Utilization of technology has made the method of teaching and learning all the more enjoyable. Traditionally education is centered on sources like schools, teachers and medium.

The learners reached the knowledge sources by enrolling with schools, teachers and libraries. Before the digital era, information wasn't accessible by the bulk of individuals, and even those accessed were unable to get current information with relevancy today's context. The education is given the best priority and brainpower is becoming the foremost valuable asset of a corporation. Advances in digital technology have displayed many avenues of learning.

Technology has made information accessible, transmittable from anywhere and by or to all or any groups of individuals.

Keywords: Teaching and learning; Education.

I. INTRODUCTION

Era of 21st century is usually examined an era of technology. Today Technology plays an outstanding role in our life. Technology is seen as of growth of an economy in today's scenario.

An economy with poor technology can never grow.

This is often because technology is a smaller amount time consuming and makes our work much easier. The impact of technology is often felt in every possible field one such field is Education.

Modern technology in education

As per the most recent findings on how exactly modern students of today opt to use technology and the way does their learning get a sway if they use technology, it absolutely was revealed that the employment of recent equipment technology and tools, the educational and interactivity of scholars increases.
They also find it way more interactive, still as filled with interesting areas, when provided by technology.
The transfer of data becomes very easy and convenient, still as effective.

What this implies is, that our minds now tend to figure faster when assisted with the employment of recent technology, be it any a part of life, here we discuss education. The reliance and dependence of such an innovation, that simply makes life a simple, smooth journey is totally unavoidable these days even in schools, universities and colleges.

II. LITERATURE REVIEW

Importance of technology in education

Role of technology within the field of education is fourfold: it's included as a component of the curriculum, as an instructional delivery system, as a way of aiding instructions and also as a tool to reinforce the whole learning process. Education is important in corporate and academic settings.

Within the former, education or training is employed to assist workers do things differently than they did before.

Within the latter; education is geared towards creating curiosity within the minds of scholars. In either case, the employment of technology can help students understand and retain concepts better. Students today make use of technology within the following ways:

- **Internet connection and around the clock connectivity.**

The importance of internet has grown in by many folds, over the method of decade. Its importance within the education world can now never be undermined. Despite the probabilities of fraud and downsides, the employment of the web is sort of a blessing for college kids.

Today, the web is a few things that are present in almost everything we use. From television to gaming consoles, and our phones, the web is literally everywhere.

The use of the web allows students to seek out amazing convenience, they'll find various styles of help, tutorials and different kinds of assisting material which might be wont to academically improve and enhance their learning.

- **Using projectors and visuals**

Visual images always have a powerful appeal compared to words. Using projectors and visuals to assist in learning is another style of great technological use. Top institutions round the world, now depend on the employment of wonderful PowerPoint presentations and projections so as to stay the educational interactive and interesting. Technological use like projectors within the faculties and colleges can take the interaction and interest levels right up and also improve motivation.

- **Online degrees with the employment of technology**

Online degrees now became an awfully common phenomenon. People wish to require up online courses for his or her learning and certifications. Top institutions offer amazing online programs with the employment of assorted applications. This idea will still rise because it gets more support and awareness. The net degree scenario round the world is more famous among students who work and appearance for flexible studying programs.

- **The Global Impact of Online Classrooms**

Online classrooms are being employed everywhere the planet and are creating global classrooms. This may help to extend the quantity of scholars in developing and aggregation countries to induce the education they have. Though the numbers of individuals enrolled in these schools remains under in America, it's climbing regularly. In fact, Russia had a rise in student registration by 230% in January of 2013.

With global classrooms quite just formal education will be found. There are sites that provide classes that may help to grant people more knowledge.

- **The Tablet in Place of Text Books**

There are several schools that have started moving to tablets rather than textbooks within the classroom. Most advantage is, the price for the books was significantly reduced. Students are able to see their homework assignments, complete work, read their textbooks and far more right at the touch of their finger.

- **The Introduction of the SMART Board**

When many of us think about the foremost crucial tool within the classroom, often times its whiteboard. This is often because it's where the teacher can teach visually to the

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

category while teaching a certain topic. It's important because people learn in numerous ways and learning a lesson in numerous ways can help to relinquish a deeper understanding that may stick with the scholar.

With the introduction of the SMART Board, the white board will never be the identical. The SMART Board utilizes a digital projector to project the info on a synched computer to the white board within the classroom. This has come to be employed by all levels of education, from pre-school through to graduate classes. There are some ways that it can impact the classroom.

- **Computers in the Classroom**

Computers became a necessary a part of life for many parts of the globe. Many have started using computers to assist improve the education. The impact of the pc within the classroom is way reaching. The computer will give prospect to strengthen their skills with these machines as society grows more hooked in to them for each day functions in life. It's important for people to know the fundamentals of the computer in addition as navigating the web.

Depending on the career path of the student there will be a varying degree of necessity with the computer though.

III. IMPLEMENTATION

Research Design

In this research, quantitative methodology was used to collect and analyze the data obtained from all the respondents. Few sections on the questionnaire were designed specifically to address research objectives in regard with the effectiveness of Technology for students in learning and effective elements of Technology. Therefore, the questionnaire was distributed to obtain the data from the respondents.

Population and Sampling

The overall total of respondents for this research was 150 out of which 120 responses were gathered.

The questionnaire was randomly distributed to the respondents with teaching background regardless of gender, race, teaching experience as well as highest teaching experience. Since the targeted respondents for this research are meant for individuals with teaching /non teaching background.

Instrument

A survey questionnaire with a total of 10 items was used as the main instrument in this study to analyze the effectiveness Technology integration in teaching and learning. A total of 150 questionnaires were distributed where all respondents were asked to read the statements given and choose their answers based on 5-Likert scale ranged from 5=Neutral, 4= Strongly Disagree, 3= Disagree, 2= Agree and 1= Strongly Agree. The questionnaires consisted of 2 sections namely: Section A is about the personal details like Name and Email Address (irrespective of age gender, race gender, race, teaching experience, type of school, school area, preference of teaching style, highest academic qualification etc) Section B comes10 questions which focuses on all the aspects of technology impacted on learning and education purpose.

Data Collection Procedure

The researchers modified the questionnaire before it is being finalized and distributed to the target group of respondents. Then, each researcher takes up 12 questionnaires one by one that made a total of 120 questionnaires being distributed to all respondents. The data was collected within 2 weeks through random distribution and some of the questionnaires were sent to respondents email. The respondents were given 3-5 days to complete the questionnaire and send it back to the researcher for data analysis. After 2 weeks, all the complete filled-up questionnaires were gathered and collected for additional data analysis by the researcher to get the output and findings for the research.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

RESULTS

The below table depicts content of questionnaire and their responses.

Sr. No.	Questions	Responses				
		Strongly Agree	Agree	Strongly Disagree	Disagree	Neutral
1	Use of Technology in education has increased the productivity?	54	54	4	4	7
2	Use of Internet connectivity in the field of education has relatively increased?	56	37	3	6	21
3	Use of Projector and Visuals while Teaching assist learning up to greater extend?	46	52	1	8	16
4	Uses of Tablets for learning are more flexible than Textbooks?	12	38	12	27	34
5	Uses of Virtual Textbooks/e-books are more compatible than the printed textbooks?	15	43	11	24	30
6	Use of Computer in classrooms helps to improve teaching?	25	53	12	8	25
7	Use of Online Degree/Courses are more flexible and less time consuming as per education point of view?	17	47	8	26	25
8	Use of various Technology in Schools/Colleges plays a vital role in imparting education among students /teachers?	23	58	6	6	30
9	Involvement of Technology in learning has changed living for better?	25	67	7	5	19

Table 1: Responses collected from Sample set

Graphical Representation of responses:

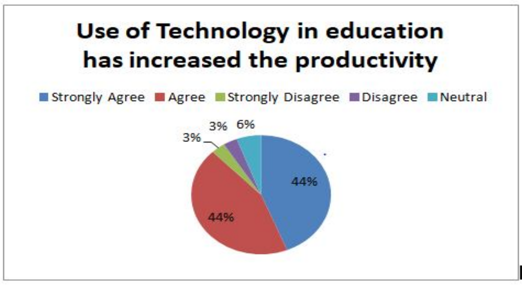


Figure 19

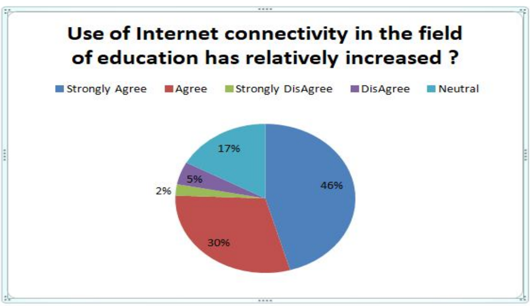
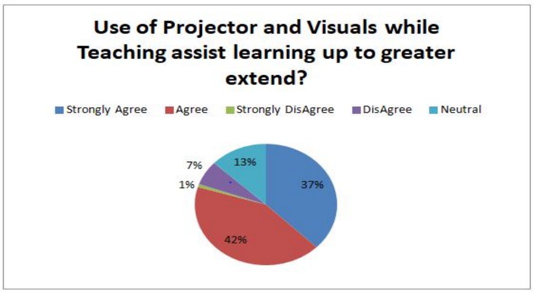


Figure 20

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020



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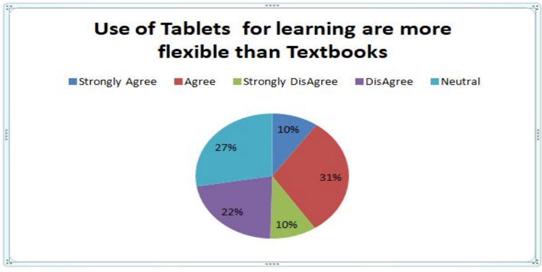

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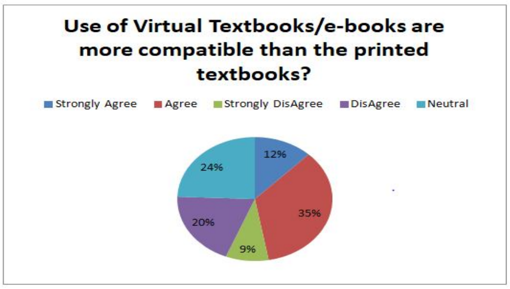

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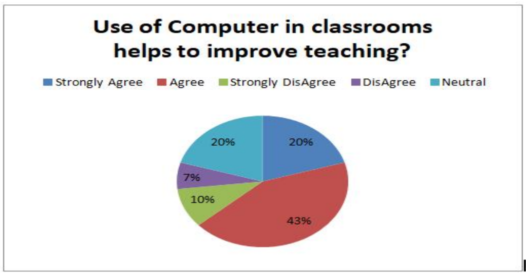

Figure 24

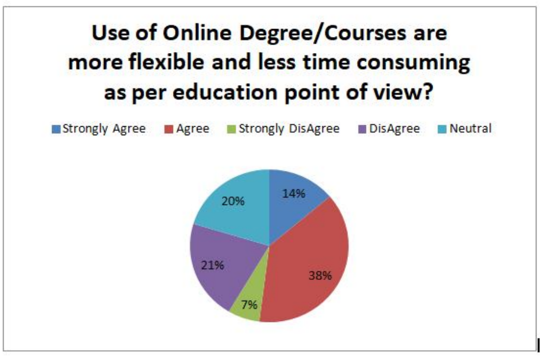

Figure 25

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

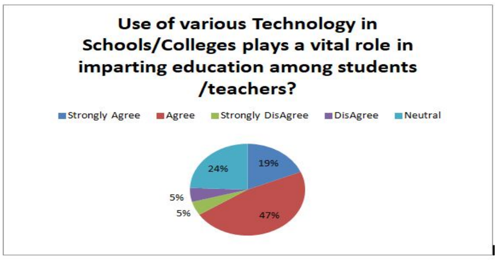

Figure 26

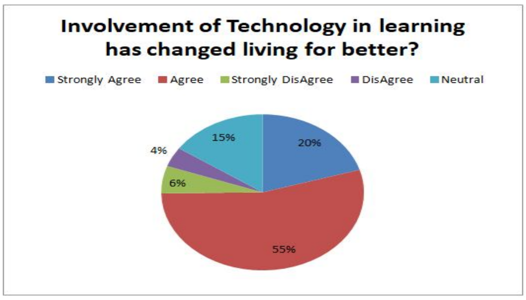

Figure 27

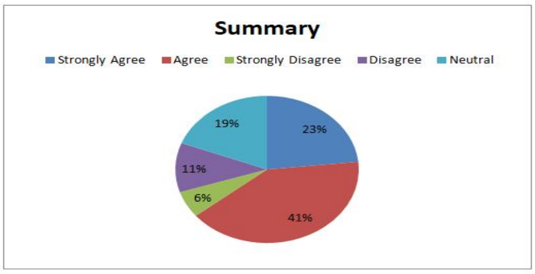

Figure 28

Figure 10 Summaries the responses of the total sample set where 23% responses strongly agrees with the content of technology affects the learning whereas 41% of sample set Agrees with the context of the topic.

IV. CONCLUSION

With technology, education has taken an entire new meaning that it leaves us with little question that our educational system has been transformed because of the ever advancing technology. Now we are able to prepare students for his or her lifelong learning which needs new approaches to education that incorporate technologies increasingly as a component of student's everyday lives. It's accepted that a well-rounded education may be a gateway to non-public success. It sets students on a path to lifelong learning that permits them to reach ever changing world. Through education, individuals can expand their minds and embrace new ideas and opportunities, and at the identical time, build better lives for themselves and their communities. In an exceedingly world where geographic boundaries are blurring, students also need the flexibility to attach with and collaborate with people anywhere at any time communicating information in additional dynamic, engaging ways. In addition, it's necessary to contemplate the impact education plays in competitive economies, where Once local industries now compete on a world scale.

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AUTONOMOUS CARS WITH AUTOPILOT FEATURES OF ROAD SAFTEY

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ABSTRACT
Driving on roads nowadays is not safer as we need more efficient and better technology in our vehicle for driving. Autopilot is a technology which can prevent accidents on roads. It has different stereoscopic cameras and sensors which are attached to the car. The car can look in all directions and can avoid Collison, with this technology driving on roads can be safer. Tesla's Autopilot technology lets you take your hands off the steering wheel while driving and takes you to your destination without any human interference. Its advanced AI has been improved a lot to prevent any accident and loss of human life. This paper shows how autopilot works, its levels of autonomy and how it was developed by Tesla Motors, also it states its features and enhancements as well as manufactures of autopilot with its future scope and drawbacks.

Keywords: Autopilot, Tesla, Self-Driving, AI, Stereoscopic Cameras, Sensors, GPS

INTRODUCTION
An ground vehicle that is capable of sensing its environment and navigating without human input can be referred as autopilot, self-driving, driverless car or an autonomous vehicle. With motor vehicle deaths on the rise, the need for a viable solution is more important than ever. According to the National Highway Traffic Safety Administration (NHTSA), 94 percent of the over 35 thousand traffic deaths in 2019were caused by human error. Automakers have for years been integrating driver assistance systems to increase the driver's awareness of potential dangers and even take proactive measures to avoid a collision. Some of the early driver assistance systems include automatic lighting, adaptive cruise control, lane correction and blind spot notifications. This continued advancement in driver assistance innovations has combined to bring us into the age of autopilot.

An autonomous vehicle can drive itself from one point to another without any human inputs. The vehicle uses a combination of radar systems, automated sensors, high end cameras and global positioning system (GPS) receivers to determine its position and surroundings and uses artificial intelligence to determine any obstacles and finds the quickest and safest path to its destination. With the help of Mechatronic units and actuators which help the car to accelerate, brake, and steer as necessary and avoid any collision.

I. AUTOPILOT
Autopilot is the advanced driver assistance systems that result in a tighter feedback loop between the automobile and its driver. Although we have not reached a point where drivers can ignore the road entirely, our automobiles are increasing the efficiency of the driver's attention to the road. Some automakers are innovating more quickly towards the goal of autonomous vehicles, such as Tesla with their software-centric models, allowing updates to immediately improve functionality.

II. LITERARURE REVIEW
Since 1920s there are various experiments which are conducted on automating cars. In 1950s many promising trials took place and the new era of automated cars started since then. In 1980s the first autonomous and automatic cars appeared, with Carnegie Mellon University's Navlab and ALV projects in 1984 and Mercedes-Benz and Bundeswehr University Munich's Eureka Prometheus Project in 1987. And the prototype for autonomous vehicles started. Major Companies such as Mercedes-Benz, Bosch, Volvo, Toyota, Nissan. Audi, General Motors and research organizations including University of Parma, Oxford University and Google. A prototype named as BRAiVE was introduced by Vislab in July 2013 this opened the doors for further research in autopilot and autonomous driving vehicles.

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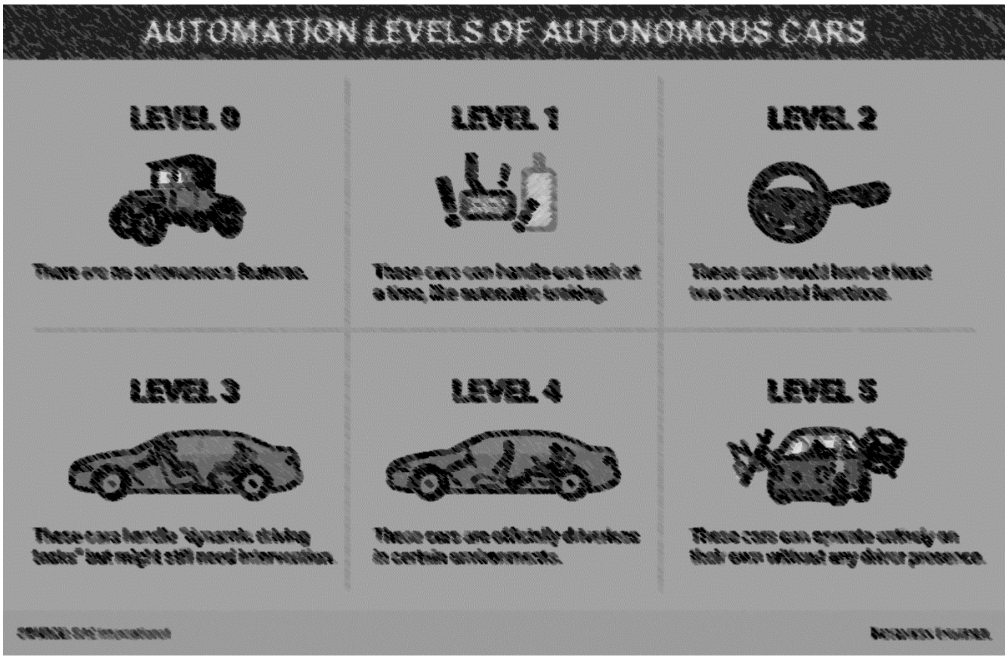
Vol.40-Issue.89-March, 2020

This Artificial Intelligence will help the drivers in their daily driving. They don't have to do the safety checks like grabbing the steering wheel after an interval of time. The Audi A8 is the first production car to achieve level 3 of autonomous driving rank, also Audi will be the first manufacturer to use laser scanners, cameras and ultrasonic sensors for implementing this technology. Later in November 2017, Waymo announced that it had begun testing cars without a safety driver at the driver position. Elon Musk publicly stated that it will have Level 5 autonomy by the year 2020. He went further to state that all Tesla's will be able to act as robo-taxis

III. LEVELS OF AUTONOMY



Levels of Autonomy

IV. HOW AUTOPILOT WORKS

The vehicle uses a combination of radar systems, automated sensors, high end cameras and global positioning system (GPS) receivers to determine its position and surroundings and uses artificial intelligence to determine any obstacles and finds the quickest and safest path to its destination. With the help of Mechatronic units and actuators which help the car to accelerate, brake, and steer as necessary and avoid any collision.

There are seven main components in working of Autopilot in car.

1. Radar Systems
2. Ultrasonic Sensors
3. Forward Looking Side Cameras
4. Main Forward Cameras
5. Rear View Camera
6. Global Positioning System (GPS) receivers
7. Artificial Intelligence (AI)

1. Radar Systems

This system prevents accidents by pulsing high frequency electromagnetic waves, by pulsing these waves the obstacles can be detected. This system helps the car to avoid collision.

2. Ultrasonic Sensors

These sensors are used for detecting cars and other obstacle within 8-meter perimeter surrounding the vehicle, useful for parking assistance and lane enhancement.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

These sensors are also used for 'Reverse Parking Assist' when parking the car in desired location.

3. Forward Looking Side Cameras
90 Degrees exposure on both sides signal detection of Oncoming vechiles up to 60 meteres away, weather they are encroaching in your lane or on a collision course through an intersenction.

4. Main Forward Cameras
Various cameras ranging from a wide-anglelens that captures traffic lights,signs and obstacles to more narrow focused camera useful in anayzing long range at high speed

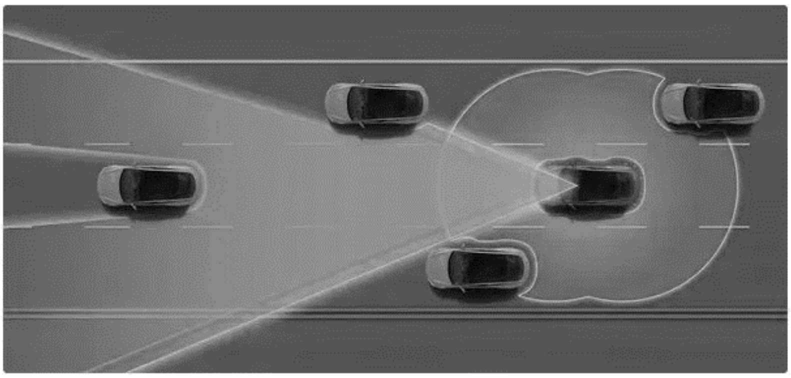
5. Rear View Cameras
It has Optical range up to 50 meters and is useful for backing up safely and parking, it is also used for analyzing approaching vehicles and to avoid collision.

6. Global Positioning System (GPS)
This technology helps the car to determine its location and calculate the distance from source to destination.

7. Artificial Intelligence (AI)
Machine learning is the way that computers can become artificially intelligent, and the technology is a form of AI.

The system recognizes cars and pedestrians for safe driving.

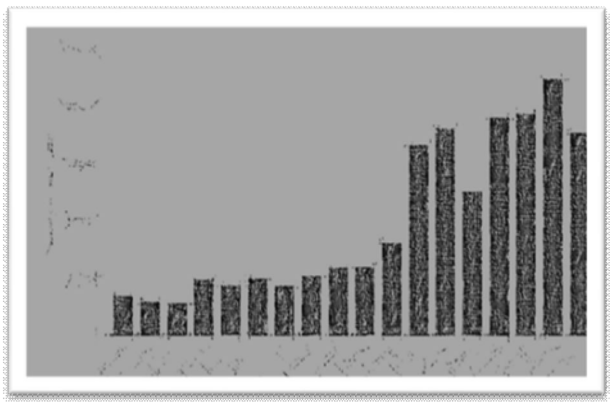
Fig 4.4



Working of Autopilot

V World Wide Usage of Autopilot
This statistic shows the number of vehicles delivered by Tesla between the second quarter of 2015 and the first quarter of 2019. During the first quarter of 2019, Tesla delivered just under 30,000 units, of which some 8,180 were deliveries of Tesla's Model

3, about 11,730 were Model S, and more than 10,000 were deliveries of Model X.



Tesla Car Sales

Number of Vehicles Tesla delivered worldwide from 2nd Quarter 2015 to 1st Quarter 2020 (in Units)

VI. BENEFITS OF AUTOPILOT

1. Collision Prevention
2. Hands-free Driving
3. Automatic Parking
4. Pedestrian Detection
5. Signboard Detection
6. Pothole Detection

1. Collision Prevention

When driving a Tesla Car on Autopilot mode the sensors and cameras help the car to avoid any obstacles in the path and it prevents collision of the vehicle.

2. Hands-free Driving

Autopilot also gives you freedom to take off your hands off your steering wheel when driving, but not more than 2 minutes. You have to touch the steering wheel to after every 2 minutes. This makes sure the driver is alert and not asleep or distracted when vehicle is in motion.

3. Automatic Parking

This Technology doesn't only drive the car but also parks it at a safe location without any hassles. The car will automatically find a parking location and park itself automatically.

4. Pedestrian Detection

When the vehicle is on the autopilot mode the sensors and cameras look in every direction for a possible collision. It recognizes people walking beside the road and crossing the road. If any pedestrian comes in between the vehicle when its in motion the autopilot will stop the vehicle and prevent any injury or accident.

5. Signboard Detection

The Autopilot looks at the signboards like Speed Limit Board, Stop Sign, School and Hospital Sign Boards with its front stereoscopic cameras. For example, if the vehicle detects a signboard of speed limit of 60 km/h then the speed is attained under that speed limit automatically.

5. Pothole Detection

The Autopilots AI technology detects the potholes on road and prepares the car for impact. The A.I calculates the speed and distance and sends signals to suspension and tires to avoid a bumpy ride.

VII. DRAWBACK

Cases of Autopilot Failures

In the mid-2016. A man died with his Model S Sedan in Ohio US, The Sedan hit a trailer of the tractor which was on the front if the sedan when autopilot was engaged.

The US Federal Investigators found that the drivers hands were been for while on the steering wheel before the accident a minute before the crash.

When the upgrades were released, Tesla's chief executive, Elon Musk, said the new Autopilot system was "really going to be beyond what people expect" and would make the Tesla Model S sedan and the Model X sport utility vehicle the safest cars on the road "by far."

VIII. FUTURE SCOPE

Tesla has promised a series of new features and upgrades to its autopilot. This will make autopilot safer unmanned driving system on the road.

These new features include "On-ramp to Off-ramp" which would enable level 3 autonomous driving on the highway.

Other features include Autosteer+ and Smart Summon, which are better versions of Tesla's existing Autopilot features.

IX. CONCLUSION

Autopilot in cars are now becoming more safe and powerful as the safety standards are becoming very high, also in near future we may see fully automated cars which solely work on autopilot technology.

With major companies like Google, Apple, Samsung and chip manufactures like INTEL and NVidia entering the market of autonomous cars, the world will soon see a drastic change of automatic driving vehicles and which can make driving on roads safer for the next generation.

Tesla's Autopilot has become safer and reliable nowadays, so it can be called the boon to the future the next generation AI technology has taken us one step closer to the future.

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AUTOMATIC PLANT WATERING SYSTEM USING ARDUINO UNO

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ABSTRACT

Current global technology plays an important role in agriculture. Automation is the technology that works without human assistance. In India approximately 58% population is agriculturists. But Uses of smart technologies for plants is less as compared to manually. Agriculture is developing from mechanized by simple methods in the twentieth century to being automated in the 21st century. In this project, we try to solve the problems of irrigation such as errors caused by farmers and the consumption of large quantities of water.

So, we need to improve our agriculture with the use of smart technologies. It is better to use automatic technology rather than manually. With the help of smart technology, we also reduce human labour, efforts, and errors due to human negligence. The economy of many countries depends on agriculture. To achieve the best quality from this research, it is important to focus on some vital characteristics such as the appropriate amount of electricity as well as water supply and a suitable schedule for irrigation of crops.

Whenever we go outside for personal reasons or a tour then we can't provide water to the plant according to their moisture level. To solve this problem I have made an Automatic Plant watering System Using an Arduino UNO.

Keywords: Automatic Plant Watering System, Smart Irrigation System Using Arduino, Soil Moisture Sensor.

INTRODUCTION

The main aim behind this system is to conserve the wastage of water and to effectively manage the amount of watering to the plants. In the world of advanced electronics life of human beings should be simpler. Hence to make life simpler and convenient I have made an Automatic Plant watering System. It uses a moisture sensor to sense the level of moisture in the soil. When the moisture content of soil goes below a certain limit for a plant or crop the pump system is triggered and the plant is watered efficiently till the desired value is reached and the pump is switched off automatically. Because agriculture is important, this research will focus on building system that allows for automating for irrigation process and it is controlled by the software application. We are aiming to control this system by a software application and to discover the most efficient automation machine from research studies into the fields of Agriculture systems.

1] WORKING

The working of this project depends upon a code written in Arduino IDE. Digital Read function reading the data from the soil moisture sensor. According to the instructions of sensors it works. Soil moisture sensors have two probes that are used to measure the volumetric content of water. In this watering system, the soil moisture sensor senses the moisture level of the soil. When soil gets dry then moisture level is low.

If the moisture level is low then it means a plant needs water. To turn off or on the water motor is dependent on relays instructions.

2] LITERATURE REVIEW

The ability to conserve two of the most important resources for a farmer is water and time has been the latest challenge. Water is one of nature's most important gifts to mankind, because the increase in population food requirement for human beings is also increasing.

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Vol.40-Issue.89-March, 2020

The proposed system in this paper is designed by considering the requirement of a crop for climatic conditions. The objective of the study is to develop a system for monitoring dehydration in the plant by placing soil moisture sensors.

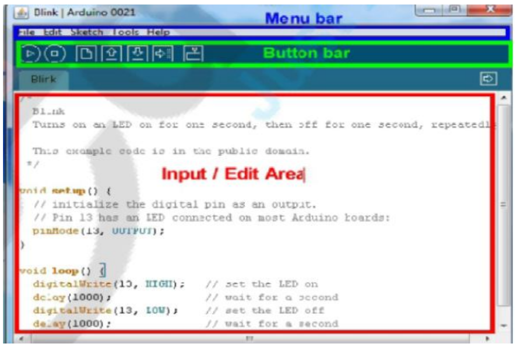
3] COMPONENTS

3.1) Arduino UNO

The Arduino UNO is a board based on the ATmega328P microcontroller and developed by Arduino.cc.The board is attached with sets of digital and analog input/output pins. The Arduino Uno board has 14 Digital pins and 6 Analog pins. It uses type B USB cable to connect with Arduino Uno to laptop/pc And program code written in Arduino IDE (Integrated Development Environment).

Arduino can sense the receiving inputs from a variety of sensors. It can be powered by an external 9 volt battery Also with USB cable though it accepts voltages between 7 v and 20 v.

3.2) Arduino IDE:

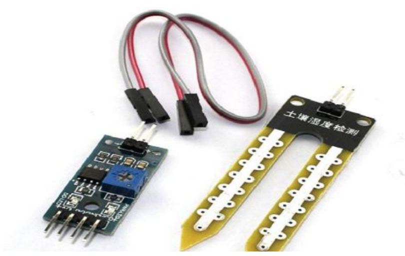


ARDUINO 1.8.10

Arduino 1.8.10 IDE is the open-source Arduino Software. It is easy to write code and upload it to the Arduino board. It runs on Windows, Mac OS X, and Linux platforms.

The environment of this software is written in Java. This IDE software can be used with any Arduino board.

3.3) Soil Moisture Sensor



It will found out how much the moisture is surrounding the plant and give me accordingly output. When the soil is dry the module outputs a high level, otherwise, the output is low. This sensor can be used to make an automatic watering system, so that garden plants can be watered without people to manage In the market There are different types of soil moisture sensors but their working principle is the same. The probe is powered with DC supply or batteries and the range is between 3.5 to 20 volts.

These soil moisture sensors have three pins 1) VCC 2) GND 3) AO.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

3.4) water pump

The water pump is used to provide water to the plant. In this watering system, it works with a relay. Relay plays an important role in this project when the water pump is on or off.

3.5) Relay:

4 channel Relay board to allows you to turn on and off a wide range of devices, both AC and DC. It is a 5V 4-channel relay

This relay needs a 15-20mA driver current. The benefit of this relay is to work with a large range current. With this range, we can operate various equipment.

3.6) Jumper wires M/F:

In this project we use male and female jumper wires used to connect female header pins to the arduino board to other development boards having male connectors.

3.7) Type B USB cable:

It uses type B USB cable for programming with Arduino IDE. It connects in between the arduino board and pc/ laptop.

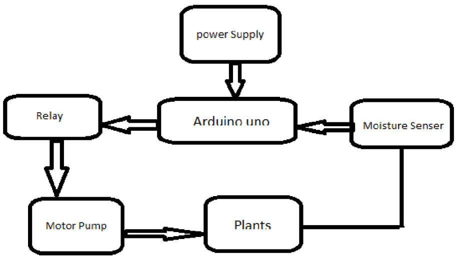


Fig: Block Diagram of Automatic Plant Watering System

4] HOW TO CONNECTS COMPONENTS

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

4.1) Relay to Arduino
Relay VCC pin >>> Arduino 5v

Relay GND pin >>> Arduino GND

4.2) Soil moisture to Arduino UNO
Soil moisture VCC>>> Arduino 3v

Soil moisture GND>>> GND

Soil moisture DO>>> Arduino pin no 8

4.3) Water Motor pump To Arduino
Connect Adapter to arduino Uno

4.4) Laptop/pc To Arduino
Connect via Type B USB cable.

5] IDE CODE

```
int Val;

void setup()

{

pinMode(13,OUTPUT);

pinMode(8,INPUT);

void loop()

{

val =digitalRead(8);

if(val==LOW)

{
digitalWrite(13,HIGH);

else

{

digitalWrite(13,LOW);

delay(400);

}
```

6] OUTPUT IMAGE

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

7] TECHNICAL SPECIFICATION

1) We use Microcontroller ATmega328P

2) Operating Voltage used up to 5v

Input Voltage used up to 7v to 20v

Digital input /output Pins used up to 14 .In between 14 pins 6 pins provide pwm output

Analog Input Pins uses up to 6

DC Current per input / output Pin uses up to 20 mA

DC Current for 3.3V Pin: 50 mA

Flash Memory used up to32 KB

SRAM capacity is 2 KB

EEPROM capacity is 1 KB

8] CONCLUSION

This idea helps to provide water not only the garden even for helping farmers also.

In present days farmers are facing major problems in watering their agriculture field because they have no proper idea about smart technologies.

The expected result from this system is the plant has avoided successful dehydration and kept growing without any problems. The Automatic plant watering system proved to be an environment-friendly technology.

We can also create a connection with a variety of plants in the future

we can also make such ideas using smart technologies like using solar panels, Gsm modules, etc in future scope.

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IMPACT OF VIDEO GAMING ON HUMAN HEALTH

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ABSTRACT
Video game addiction has been considered as a serious threat to mental health, and the excessive use of the video game has been linked to a variety of negative psychosocial consequences. The aim of this assessment is to become aware of the emerging intellectual health problem of video gaming addiction from a human perspective.

Keywords: Video game, Addiction, Players behaviors, Negative Impact.

I. INTRODUCTION
With the non-stop increase of producing and growing new generation altogether aspects of lifestyles, most of the trendy technology that was formerly taken into consideration as entertainment technologies has emerged as vital technologies in our day by day lives. One of the most vital of these new technologies is the brand new media, which has a profound effect on our contemporary day by day lives. Some examples of recent media are Smartphone, computers, digital worlds, website, hand-held gadgets, video games, and many others.

Video game is one of the widely finest technology industries right now. Just by seeing the number of video games available in the market, we can conclude that game enterprise is one of the finest industries. However now, video games could make parents worry about their child. Video game dependency is a terrible addiction. This circumstance makes it traumatic for a few aspects. At first, people play video games just to have fun or for time pass however after playing often this will become an addiction for them, and even though they want to disconnect themselves from playing video games but giving up on it isn't easy to do so. That’s how video games turn into dependency for people.

As per my survey and studies on previous few surveys, I get to understand that video game addiction includes inflammation, nerve-racking, depression, mental absence, and additionally a sense of anger in human.

Gaming addiction remains the mysterious problem, greater terrifying than alcohol or drug addiction. Just like the professional from Amsterdam say, “they're powerless over their addiction”. However, these addicts are not hooked on drugs or alcohol. The lure of a fantasy global is mainly pertinent to online role-playing video games. These are games wherein a participant assumes the position of a fictional individual and interacts with other gamers in a virtual globe." The virtual existence turns into more attractive than real existence. We need to respond to this problem significantly.

So far on this problem, no one can discover why this problem easily shows up and comparatively hard to be solved. It’s important to be investigated to understand why are video games addictive, how common is video game addiction in kids and what are the effect, so we can maintain off or treat this problem well. To gather information to guide this research, I had taken a survey with a view to be answered by the kids as well as adults those likes playing online game. We can use their critiques to underlie the issues and locate some that is playing video games is addictive or not.

This study offers an advantage over conventional survey and behavioral research due to the fact with this approach, it is viable to distinguish precise age and gender, which can be involved in the development and preservation of addiction. There is a loss of consensus as to whether or not video game addiction exists and/or whether the term “addiction” is the most suitable to use. Some researchers use terminology, including “excessive” or “problematic” to indicate the dangerous use of video games.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

II. OBJECTIVE

1. To analyze the human factor in the direction of video game addiction.
2. Impact of video game addiction on human.
3. Examine video game addiction on precise gender and age.

III. LITERATURE REVIEW

1) According to Shu-Hsun research in 2011, "gamers play video games because of numerous motivations and purposes. Some accept as true with video games help them enhance mental skills and enhance physical coordination analyzing potential, attention, hand-eye coordination, and velocity reactions to novel situations." because of this video game can make contributions intellectual competencies due to the fact some video games require critical thinking and which can enhance human's response.

2) According to Mentzoni study, "discovered that self-stated sleep issues, depression, suicidal intellection, anxiety, obsessions, and compulsions similarly as alcohol and drug abuse had been beyond any doubt associated with the frequency of video game playing." This means the syndromes that a video game addict will acquire vary from a minor problem (sleep issues) to major problems (suicide). whereas an individual doesn't have a minimum of eight hours of sleep each day, he or she will develop strain and emerge as moody. This not solely influences the game addict themselves, however conjointly family or friends that are close to the individual.

IV. RESEARCH METHOD

To collect data to support this research, I have taken the survey that have been answered by the participants those likes playing video games.

I made few questionnaires which were responded by the game enthusiasts that facilitates me to analyse the symptoms of the gaming addiction, the reason why gaming is addicting, and the impact of the gaming addiction. Questionnaire survey is a research method consists of a series of questions that are sequentially and logically arranged in order to gather quantitative data from people. This method aims to examine the participants' thoughts, opinions and feelings in a systematic manner and helps to save time and effort compare to personal interviews.

V. DATA ANALYSIS

Before we analyze about "Is video game addiction or not?" let's figure out why people spend time on playing video games? Why they prioritize gaming instead of other work? There are lots of these kind of questions comes to my mind, which becomes my questionnaires for the survey, and these question's answers are given by players who spend time on playing video games which helped me to figure out the reason.

As per the taken survey, players play video games for have entertainment, avoid loneliness, avoid boredom or escape from personal problem. As per most selected option people play video games for avoid loneliness or have for entertainment. Even for spending more time on video games lots of people skip food, reduce sleeping hours, skip from school/college which effect them physically as well as mentally. That's how addiction start taking place and participant get depress, anxious, moody, angry, irritated and sad when he/she not able to play video games.

The questionnaires asked in survey are listed below:

A) Gender

B) Age

C) which game do you like to play?

D) Roughly, how many hours do you spend playing games each day?

E) Do you think about playing games while you are not playing them?

F) Does playing games ever take priority over performing daily tasks (e.g. study, work, etc.)?

G) Do you spend real money in-game?

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

H) Have you ever used _________ just for gaming?

I) Have you ever gamed in inappropriate or unsafe situations (in class, at work, while driving)?

J) Have you ever had a moment when you really wanted to stop gaming to do something else, but just could not?

K) Are gaming stories the most exciting topics of conversation for you?

L) Have you ever have any fantasies and dreams about gaming.

M) Do you play game to ____.

N) Do you feel restless, irritable, moody, angry, anxious, bored, or sad when you try to cut down or stop gaming, or when you are unable to play?

O) And have you lost interest—or reduced participation—in other recreational activities due to gaming? (Like hobbies, meeting friends, etc….)

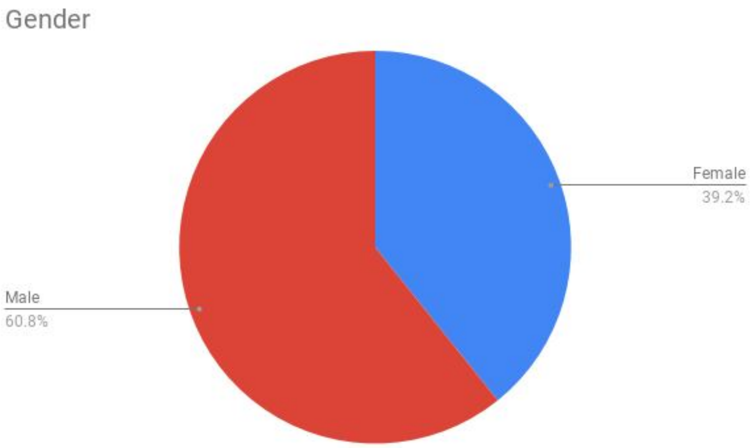
P) Have you continued to play a game even though you knew about the negative consequences, such as not getting enough sleep, being late to school/work, spending too much money, having arguments with others, or neglecting important duties?

Q) Have you tried to keep your family or friends from knowing how much time you spend on playing game?

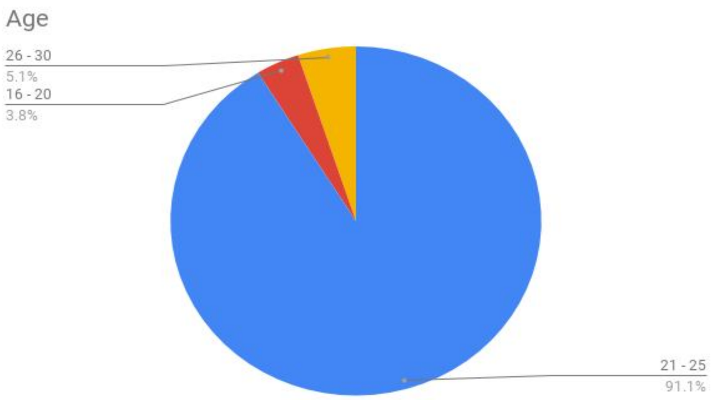
R) Have you risked or lost significant relationship, job, educational, or career opportunities because of gaming?

These listed questions are enough to know about video game addiction and the effects on human. The answer of these questionnaires are respectively listed below:

1) Fig. (1.1) show gender of survey users and Fig. (1.2) for age.



(Fig. 1.1)



(Fig. 1.2)

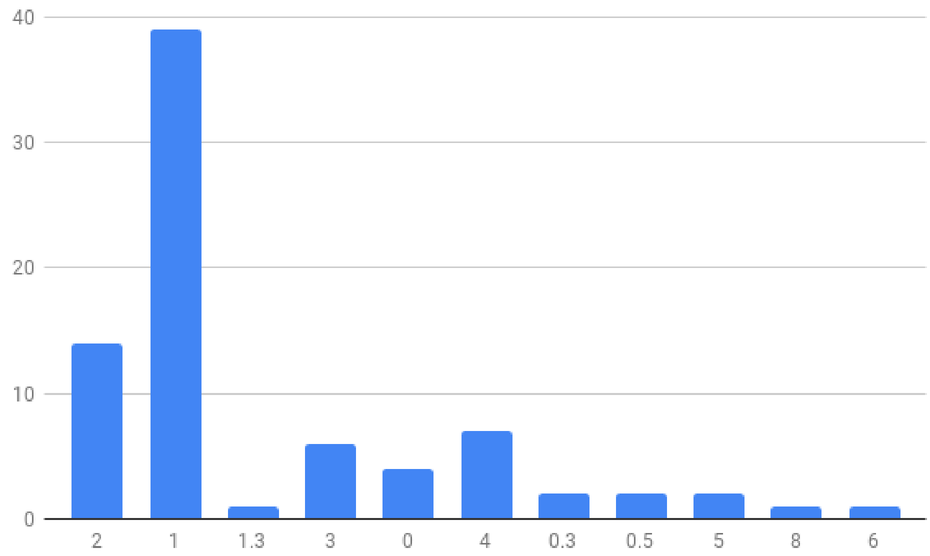
ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

As the Table (1.1) is shown, describes the users responses for their gender and age and with the help of those data I have analysis that compare to girls and boys, boys are more active in video games. And when it comes to age , 21-25yrs old participants are more active to participants in video games.

Age / Gender	Male	Female	Others	Total
15-20	3	0	0	0
21-25	42	30	0	72
26-30+	3	1	0	4
Total	48	31	0	79

Table - 1.1 (Calculation of Age and Gender)

1) When I ask that how many hours they spend on playing, the responses were quite shocking because 1 or 2 hours a day are acceptable but more than 3-6 hrs is shocking.



(Fig. 1.3)

1) When I asked to participant about have they ever skip their work or study because of video game, some of the responses were unexpected shown below in fig. (1.4).

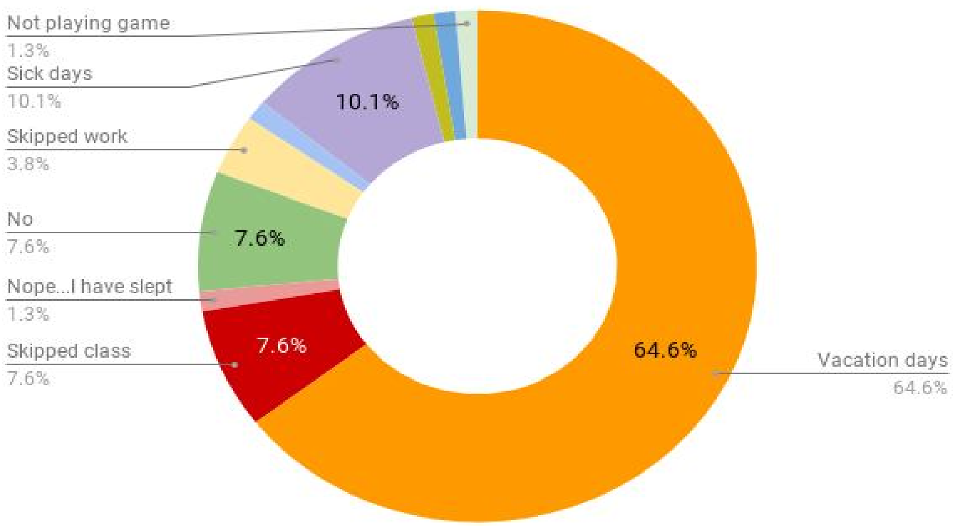
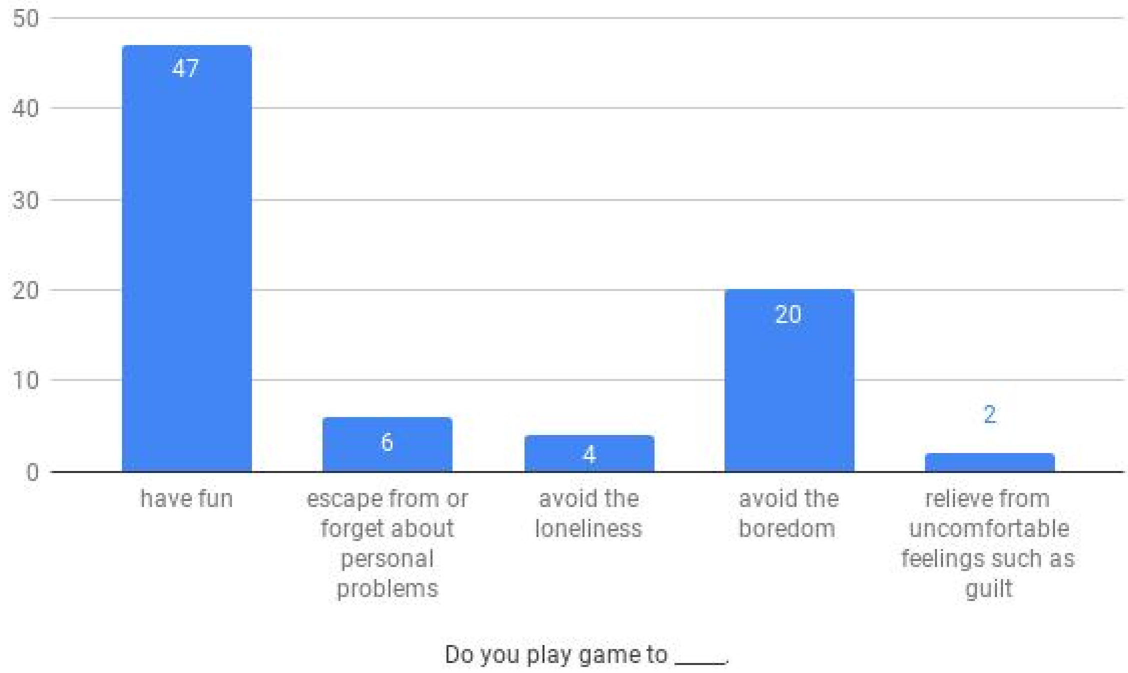


fig. - 1.4)

1) I asked to user about their specific reason behind playing video games, responses are shown below in fig, (1.5).



(fig. - 1.5)

1) Although some participants have shared their thought about video game addiction -

A. When person ignore food or other important aspect of life for playing game, gives first priority to gaming over anything, means he/she is addicted to games.

B. Spending too much time on playing game and specially left your daily activities for it, is something look like video game addiction.

C. The person who is addicted to game does not think much of his/ her pending work. They just spend hours in playing game.

D. People should play outdoor games and avoid video gaming especially kids. They won't have healthy lifestyle nowadays.

E. Addicted to game is like a gaming disorder. Playing game for extremely long time can lead you to serious medical problems.

F. Yes, nowadays teenagers are becoming more addicted to games. This should be stop because it leads to physical as well as psychological problems for people.

G. Game destroys your study time as well your future. Don't play for long time because after sometime it becomes addiction, so stay away from video games.

VI. CONCLUSION

In this paper, we discussed all of the studies which are associated with how video games affect the behaviors of players, whether this impact is tremendous or terrible. It has been proven that video games can also cause a variety of changes on the players which include aggression, depression, anxious and etc. The collected data from the participant is taken into consideration and the main part in analyzing the persona of the participant in order to find the impact of the video game on the participant. And also we get to know about specific gender and age of addicted participants.

The majority of studies conclude that there is a relationship between the video games and the addiction. Excessive use of video games leads the way to addition which is not good for player's health. Even though the contributed users are not addicted to game which is cleared as per their responses but majority of users agreed to that Video game addiction exist and not good for human being in both physical and psychological ways.

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COMPARATIVE STUDY OF JOB SATISFACTION IN NATIONALIZED BANKS AFTER POST-MERGER-A STUDY WITH RESPECT TO PORBANDAR CITY

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ABSTRACT

The study has been done in Porbandar city to compare the job satisfaction level in nationalized bank after post-merger because the role of human resource management in an organization has been evolving dramatically in recent times. The way of leading life has changed dramatically since independence. When people are ever changing and their demands are also varying. Job Satisfaction has emerged as most popular and widely researched topics in the field of Organizational Psychology. The result is that they may not contribute to the fullest of their potential. The purpose of this study is to examine the level of job satisfaction among bank employees who have faced merger & acquisition. For the purpose of analysis and interpretation, data was collected from primary sources and based on which conclusions were drawn. Data was collected from nationalized banks. It was found that the level of job satisfaction among bank employees after M&A is not equally distributed.

Keywords: Merger, Acquisition, Job satisfaction, BOB, Dena bank, Vijaya bank

INTRODUCTION

Financial systems are of crucial significance to capital formation. A financial system plays a vital role in the economic growth of a country. Merger & Acquisitions is a powerful strategy. Merger is a combination of two or more companies into one company. It may be in the form of one or more companies being into an existing company or a new company may be formed two or more existing companies. State-owned Bank of Baroda's proposed merger with Dena and Vijaya Bank will be affected from 1st April, 2019. The government's amalgamation plan for these state-owned banks has already got all the necessary approvals from the regulators concerned.

The Bank of Baroda in a meeting also decided to issue and allots equity shares to Vijaya Bank and Dena Bank on March 11, 2019. The scheme has been named as 'Amalgamation of Vijaya Bank and Dena Bank with Bank of Baroda'.

The purpose behind this study is to know the satisfaction level of employees after merger and acquisition of these 3 banks. With the help of above statement as well through research, one can easily identify the level of satisfaction among bank employees after M&A.

As a result of that many a time employee become dissatisfied. Post-merger there one of the main reasons for dissatisfaction is distrust. Through this research paper, one can easily identify and analyse the relationship between job satisfaction and M&A.

INDUSTRY OVERVIEW

The economic development of any country depends on the extent to which its financial system efficiently and effectively mobilizes and allocates the scares resource. A bank is a financial intermediary that accepts deposits and channels those deposits into lending activities, either directly or through capital markets. A bank connects customers with capital deficits to customers with capital surpluses. The Banking sector is the lifetime of any modern economy. It is one of the important financial pillars of the financial system, which plays a vital role in the success/failures of an economy. According to Banking Regulation Act, Banking is the accepting, for the purpose of lending or investment, of deposits of money from the public, repayable on demand or otherwise and withdraw able by cheque, draft, order or otherwise.

- It reflects the economic health of the country. Today banking sector is growing very fast.
- Banking sector is perhaps main contributor to help the country to fight against global crisis.
- The banking system in India is significantly different from that of other Asian nations because of the country's unique geographic, social, and economic characteristics.
- Following is the structure of banks in India.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

- Basically, it covers mainly 2 structure- Commercial Banks and Co-operative banks.
- Commercial Banks include public sector banks, private sectors banks, foreign banks
- While, Co-operative banks include urban co-operative bank and rural banks.

RESEARCH METHODOLOGY

- ***Research problem*** is *'A study on Post-merger Employee Job Satisfaction in BOB-Dena Bank-Vijaya Bank'*

India is trying to have fewer but healthier lenders. On Sep.17, 2018 the Modi government announced plans to merge 3 public sector banks: Mumbai-based Dena Bank, Bengaluru's Vijaya Bank, and Bank of Baroda (BOB) that has its head office in Vadodara, Gujarat. The merged entity, with total assets of over Rs 14 lakh Crore, will be India's third-largest lender behind the state bank of India and HDFC Bank.

As the merger came into effect from April 1, 2019 customers of Dena Bank and Vijaya Bank are now account holders of Bank of Baroda, which has become India's third largest bank. One of the reasons for choosing these three banks was that the two stronger ones will be able to absorb the weaker entity, explained Jaitley. The merger will provide customers of all three banks access to a larger number of branches, ATMs and other services. With an increased market share, the economies of scale will improve and Bank of Baroda is expected to become more profitable. The new entity now has a network of about 9500 branches and approximately 13000 ATMs across India. Customers of Vijaya Bank and Dena Bank have also gained access to around 104 overseas branches of Bank of Baroda.

Bank of Baroda has announced on its website that as of now, it is neither changing the location of any branches nor closing any of them. "We don't plan to close any branch. Should we decide to merge branches, you will be notified well in advance," the bank said.

As far as ATMs are concerned, you can use the ATMs of any of the three banks. No ATM transaction charges will be le vied in such cases. Online banking channels of all three banks will also continue to work as usual.

AB SAATH HAIN TEEN,

BEHTAR SE BEHTAREEN.

Figure-1 The Merger of 3 public sector banks

(*Source*: www.classiciasacademy.com)

Customers of Dena Bank and Vijaya Bank can continue to use their existing cheque books and ATM cards until any further announcement. "The existing account number, IFSC code, MICR code and other identifiers of account and branch will continue, till a change is notified and announced," Bank of Baroda said. In case you want to make a NEET/RTGS transaction from Bank of Baroda to Dena Bank or Vijaya Bank, and vice versa, charges will not apply. The bank branch will refund the charges to your account.

Your existing account with Vijaya Bank and Dena Bank will continue, till otherwise communicated. However, according to a communication by BoB, you are required to make cash and cheque deposits in branches of your parent bank only. Both Vijaya Bank and Dena Bank have revised quarterly average balance requirements after the merger. "We had tried our best to cause minimal changes to the existing Quarterly average balance limit and charges. In case of any further changes, we will notify the customers in advance," Bank of Baroda said. For service charges, both Vijaya Bank and Dena Bank have issued a detailed list of charges applicable from the date of merger.

Here's what the merged entity could look like:

Table-1 Merged entity of three banks

Parameters	Bank of Baroda	Vijaya Bank	Dena Bank	Amalgamated bank
Total business (Rs lakh Cr)	10.29	2.79	1.72	14.82
Gross advances (Rs lakh Cr)	4.48	1.22	0.69	6.4
Total deposits (Rs lakh Cr)	5.81	1.57	1.03	8.41
Branch presence	5502	2129	1858	9489
Return on assets (%)	0.29	0.32	-2.43	-0.02
Common equity Tier-1 capital (CET) (%)	9.27	10.35	8.15	9.32
Capital to risk weighted assets ratio (CRAR) (%)	12.13	13.91	10.6	12.25
Net NPA	5.4	4.1	11.04	5.71
Employees	56361	15784	13440	85675

(*Source*-https://qz.com/india/1392458/what-the-merger-of-dena-bank-bank-of-baroda-vijaya-bank-means/)

Job Satisfaction has emerged as most popular and widely researched topics in the field of Organizational Psychology. The result is that they may not contribute to the fullest of their potential. The purpose of this study is to examine the level of job satisfaction among bank employees who have faced merger & acquisition. For the purpose of analysis and interpretation, data was collected from primary sources and based on which conclusions were drawn. Data was collected from 3 banks- BOB, Dena bank and Vijaya bank.

➢ RESEARCH OBJECTIVES

The following objectives were identified for the research.

❖ Primary objective

- To examine the level of job satisfaction among bank employees who have faced merger

❖ Secondary objectives

- To find out whether employees felt that bank relies upon them
- To understand the perception of employees as to whether their roles are in sync with company – objectives

➢ LITERATURE REVIEW

1. On the basis of research of Dirani, Khali M; Kuchinke, K. Peter (2011) One of the most widely used definitions in organizational research was that of Locke (1976), who defined job satisfaction as " a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences".

2. Egl Duksait and Rima Tamosiunien (2009) described the most common motives for company's decision to participate in mergers and acquisitions transactions. The reason is growth, synergy, access to intangible assets, diversification, horizontal and vertical integration and so on arises from the primary company's motive to grow. Most of the motivations for mergers and acquisitions feature serve as means of reshaping competitive advantage within their respective industries. However, it may be that some of the motives identified affect some industries more than others, and in that sense, they can be expected to be associated with a greater intensity of mergers and acquisitions in certain sectors rather than others.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

3. Sverke, Hellgren, & Naswall (2002) observed that job uncertainty can affect employees' job attitudes, organizational attitudes, and their behavioural relationship with the organization adversely.

Job satisfaction is a good predictor of commitment and it is a known fact that if employees are not committed, no business strategy can be successful. Merger being a business strategy it would be affected if employees are not satisfied.

➢ RESEARCH PLAN

Research Design : Descriptive study

Research Area : Banking sector

Target Population : Employees in BOB, Vijaya Bank and Dena Bank in Porbandar city

Sample Type : Employees

Sample size : 40 Respondents

Sampling Method : Stratified sampling

Sources of data : Primary data

Data collection Instrument : Questionnaire

Data collection Method : Personal Survey Method

➢ HYPOTHESIS FRAMEWORK

Q-1 IS THERE ANY SIGNIFICANT DIFFERENCE IN THE LEVEL OF JOB SATISFACTION AMONG BANK EMPLOYEES EXPERIENCED A MERGER WITH RESPECT TO THEIR JOB LEVELS AND TYPES OF BANKS?

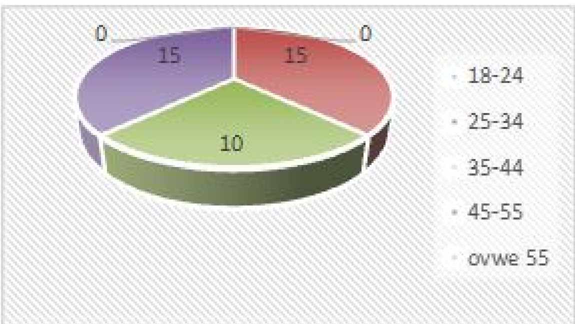
H0: There is no significant difference between the level of job satisfaction among bank employees experienced a merger with respect to their job levels and types of banks.

H1: There is a significant difference between the level of job satisfaction among bank employees experienced a merger with respect to their job levels and types of banks.

➢ DATA COLLECTION AND INTERPRETATION:

1. GENDER:

MALE	**34**
FEMALE	**06**



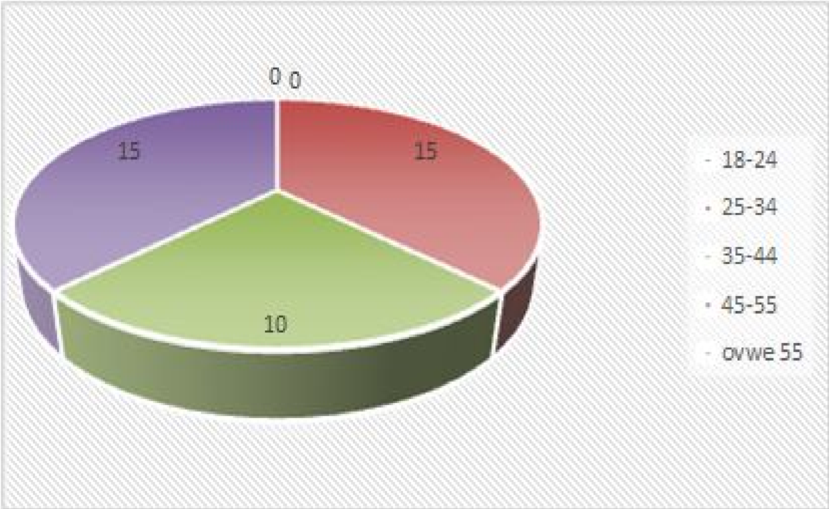
Interpretation: As per the survey, we can say that 34 respondents are male & 6 respondents are female.

2. WHAT IS YOUR AGE GROUP?

1	**18-24**	**0**

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

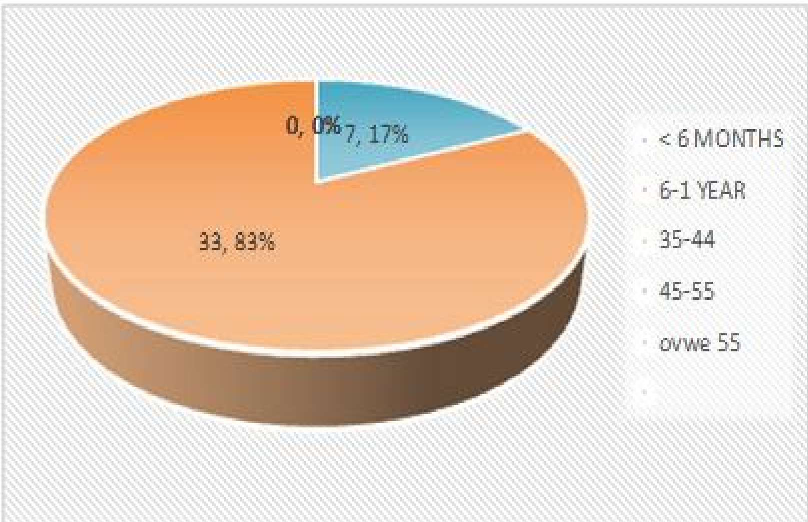
2	**25-34**	**15**
3	**35-44**	**10**
4	**45-55**	**15**
5	**Over 55**	**0**



Interpretation: Among my sample, I preferred to contact with the age group, there were 15 of sample belonging to 25-34 years age group, 10 respondents of 35-44 years, 15 respondents of 45-55 years.

3. FOR HOW LONG YOU HAVE BEEN WORKING FOR THIS BANK?

1	**LESS THAN 6 MONTHS**	**0**
2	**6 MONTHS TO 1 YEAR**	**0**
3	**1 YEAR TO 3 YEARS**	**0**
4	**3 YEARS TO 6 YEARS**	**0**
5	**6 YEARS TO 10 YEARS**	**7**
6	**ABOVE 10 YEARS**	**33**



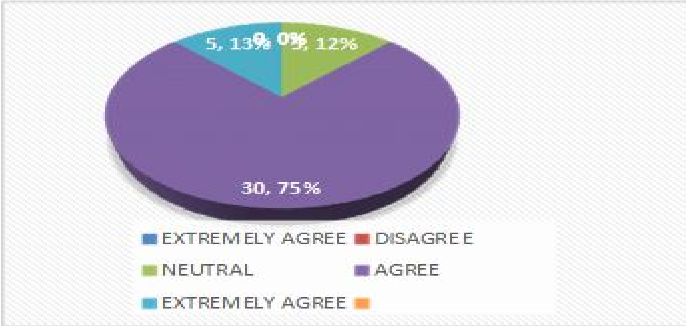
Interpretation: Among my sample, 33 respondents have 10 years above experience while only 7 respondents have 6 years to 10 years experiences.

4. I AM SATISFIED WITH MY JOB………………

1	EXTREMELY DISAGREE	0

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

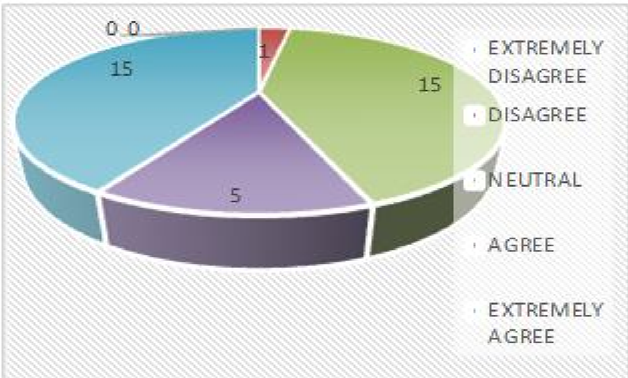
2	DISAGREE	0
3	NEUTRAL	5
4	AGREE	30
5	EXTREMELY AGREE	5



Interpretation: Interpretation: Among my sample, 30 respondents are satisfied with their job.

5. IS THERE ANY SIGNIFICANCE DIFFERENCE IN THE PERCEPTION OF EMPLOYEES ON MY BANK RELIES UPON ME TO PERFORM IMPORTANT WORK WITH RESPECT TO THEIR JOB LEVELS AND TYPE OF BANKS?

1	EXTREMELY DISAGREE	0
2	DISAGREE	1
3	NEUTRAL	15
4	AGREE	5
5	EXTREMELY AGREE	15

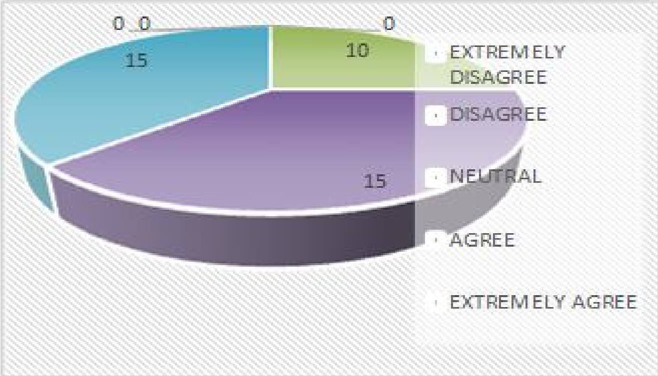


Interpretation: Among my sample, 15 respondents are extremely agree that there is any significance difference in the perception of employees on their bank relies upon them to perform important work w.r.t their job levels and type of banks.

6. IS THERE ANY SIGNIFICANCE DIFFERENCE IN THE PERCEPTION OF EMPLOYEES WHETHER THEIR ROLE IS IN SYNC WITH THE MISSION/OBJECTIVES OF THE COMPANY WITH RESPECT TO THEIR JOB LEVELS AND TYPE OF BANKS?

1	EXTREMELY DISAGREE	0
2	DISAGREE	0
3	NEUTRAL	10
4	AGREE	15
5	EXTREMELY AGREE	15

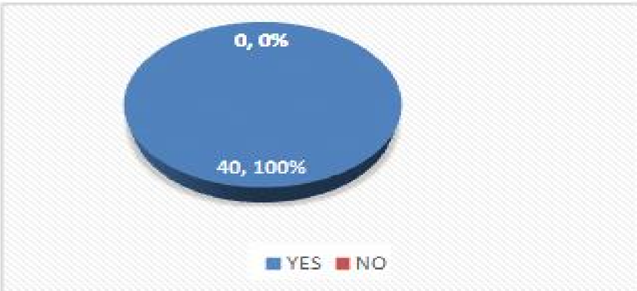
ISSN: 2394-3114
Vol.40-Issue.89-March, 2020



Interpretation: Among my sample, 10 respondents are extremely agree that there is any significance difference in the perception of employees whether there role is in sync with the mission/objectives of the company with respect to their job levels and type of banks.

7. ARE YOU AWARE ABOUT MERGER?

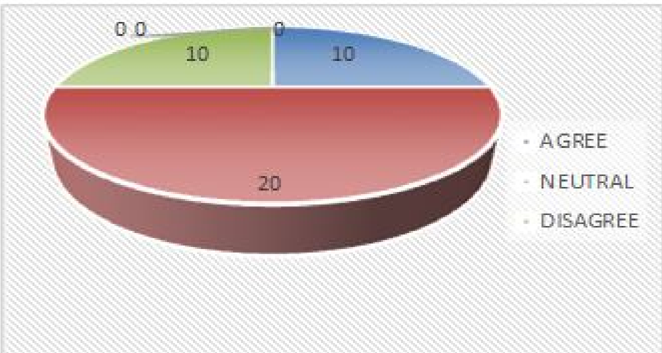
1	YES	**40**
2	NO	**0**



Interpretation: Among my sample, 40 respondents are aware about merger.

8. "APPRAISAL OF THE FINANCIAL PERFORMANCE OF BANKS" CAN BE THE REASON BEHIND THE MERGER OF BOB, DENA BANK AND VIJAYA BANK?

1	AGREE	**10**
2	NEUTRAL	**20**
3	DISAGREE	**10**

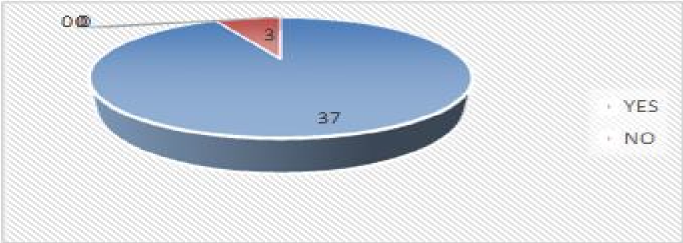


Interpretation: Among my sample, 10 respondents are agree that "appraisal of the financial performance of banks" can be the reason behind the merger of BOB, DENA bank and VIJAYA bank. While, 20 respondents are neutral in their response and 10 respondents are disagree upon them.

 ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

9. IS THERE ANY DIFFERENCE IN OPERATING SYSTEM OF BANK AFTER MERGER?

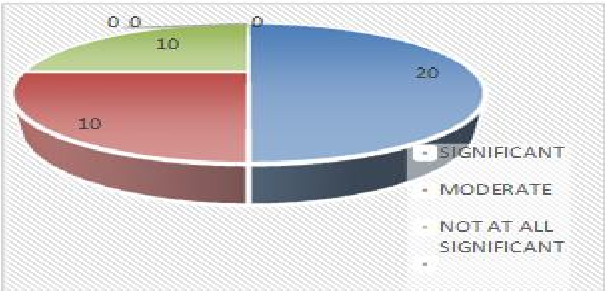
1	YES	**37**
2	NO	**3**



Interpretation: Among my sample, 37 respondents say that there is any difference in operating system of bank after merger.

10. HOW SIGNIFICANT IS THE CHANGE IN THE METHOD AND OR WORKLOAD OBSERVED POST MERGER?

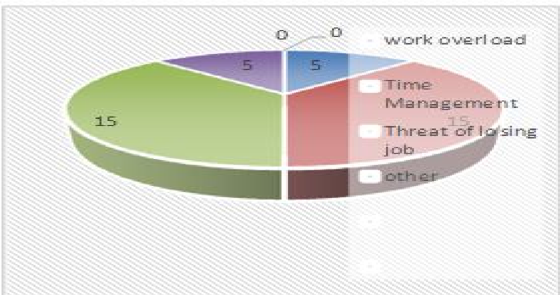
1	SIGNIFICANT	**20**
2	MODERATE	**10**
3	NOT AT ALL SIGNIFICANT	**10**



Interpretation: Among my sample, 37 respondents say that there is any difference in operating system of bank after merger.

11. WHICH TYPE OF HURDLES YOU MIGHT FIND AFTER MERGER?

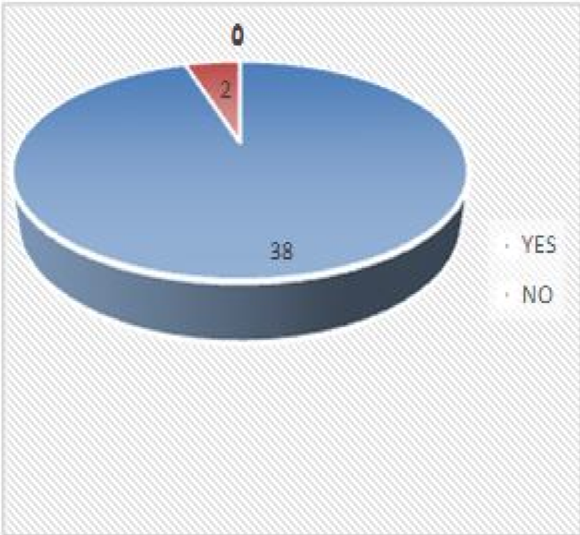
1	WORK OVERLOAD	**05**
2	TIME MANAGEMENT	**15**
3	THREAT OF LOSING JOB	**15**
4	OTHER PLEASE SPECIFY……….	**05**



Interpretation: Among my sample, 15 respondents say that time management is one type of hurdles employee might find after merger. While 15 respondents say that threat of losing job is one of the hurdle employees might find after merger.

12. IS THERE ANY SIGNIFICANT DIFFERENCE IN THE LEVEL OF JOB SATISFACTION AMONG BANK EMPLOYEES EXPERIENCED A MERGER WITH RESPECT TO THEIR JOB LEVELS AND TYPES OF BANKS?

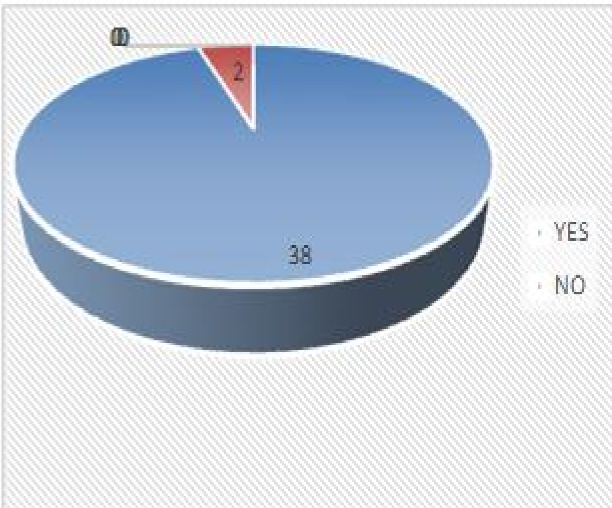
1	EXTREMELY DISAGREE	0
2	DISAGREE	1
3	NEUTRAL	15
4	AGREE	5
5	EXTREMELY AGREE	15



Interpretation: Among my sample, 15 respondents are extremely agree that there is any significant difference in the level of job satisfaction among bank employees experienced a merger with respect to their job levels and types of banks.

13. IS THE MERGER OF THE BANKS ARE BENEFICIAL IN YOUR DEVELOPMENT?

1	YES	**38**
2	NO	**02**

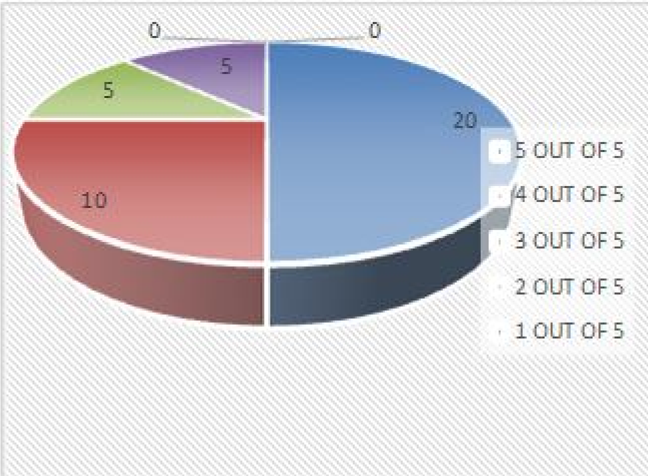


Interpretation: Among my sample, 38 respondents say that the merger of the banks are beneficial in your development.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

14. RATE THE BENEFIT OF MERGER OF BOB, DENA BANK AND VIJAYA BANK IS FOUND IN THE TERMS OF COMPETITION IN THE BANKING SECTOR.

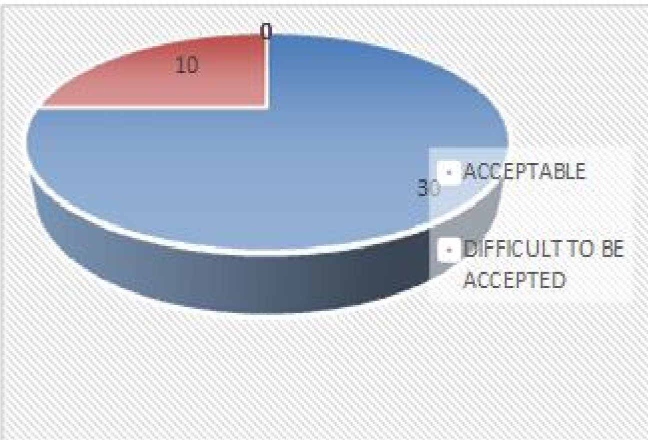
1	☆☆☆☆☆	**20**
2	☆☆☆☆	**10**
3	☆☆☆	**5**
4	☆☆	**5**
5	☆	**0**



Interpretation: Among my sample, 20 employees say that the benefit of merger of bob, DENA bank and VIJAYA bank is found in the terms of competition in the banking sector.

15. HOW WAS THE ACCEPTABILITY OF THE MERGER DECISION OF THE BANKS FROM YOUR PERSPECTIVE?

1	ACCEPTABLE	**30**
2	DIFFICULT TO BE ACCPETED	**10**

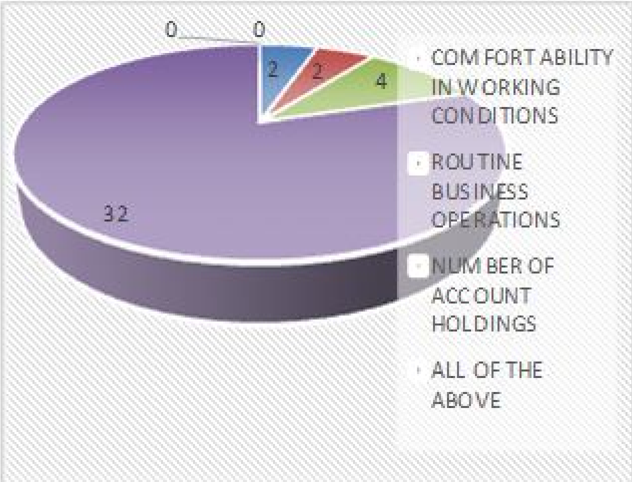


Interpretation: Among my sample, 30 employees show their acceptability towards their merger decision

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

16. WHICH OF THE BELOW CONDITIONS CAN YOU CONSIDER THE MOST EFFECTIVE TO YOUR JOB SATISFACTION LEVEL AFTER THE MERGER OF BOB, DENA BANK AND VIJAYA BANK?

1	COMFORT ABILITY IN WORKING CONDITIONS	**2**
2	ROUTINE BUSINESS OPERATIONS	**2**
3	NUMBER OF ACCOUNT HOLDINGS	**4**
4	ALL OF THE ABOVE	**32**



Interpretation: Among my sample, 32 employees consider that comfort ability in working conditions, routine business operations and number of account holdings are conditions for job satisfaction level after the merger of BOB, DENA BANK and VIJAYA BANK.

HYPOTHESIS TESTING-

Chi - square test (Goodness of fit)

1. Is there any significant difference in the level of job satisfaction among bank employees experienced a merger with respect to their job levels and types of banks?

1	EXTREMELY DISAGREE	0
2	DISAGREE	1
3	NEUTRAL	15
4	AGREE	5
5	EXTREMELY AGREE	15

Step – 1:

H0: There is no significant difference between the level of job satisfaction among bank employees experienced a merger with respect to their job levels and types of banks.

H1: There is a significant difference between the level of job satisfaction among bank employees experienced a merger with respect to their job levels and types of banks.

Step – 2:

Category	fo	fe	$(fo-fe)$	$(fo-fe)^2$	$\frac{\sum(fo-fe)^2}{fe}$
EXTREMELY DISAGREE	0	8	-8	64	8
DISAGREE	1	8	-7	49	6.125
NEUTRAL	15	8	7	49	6.125
AGREE	5	8	-3	9	1.125
EXTREMELY AGREE	15	8	7	49	6.125
TOTAL		**40**			**27.5**

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

$\chi^2\ cal = \frac{\Sigma(fo-fe)^2}{fe}$ = 27.5

Step – 3:
DF = n – 1

5 – 1 = 4

$\chi^2\alpha$, DF = χ^2 0.05, 4

χ^2tab= 9.488

Step – 4:
The calculated value is greater than the tabular value. So, this rejects H0 hypothesis which means there is significant difference between the level of job satisfaction among bank employees experienced a merger with respect to their job levels and types of banks.

FINDINGS

- As per the survey, we can say that 34 respondents are male & 6 respondents are female.
- I preferred to contact with the age group, there were 15 of sample belonging to 25-34 years age group, 10 respondents of 35-44 years, and 15 respondents of 45-55 years.
- Among my sample, 33 respondents have 10 years above experience while only 7 respondents have 6 years to 10 years' experience.
- 30 respondents are satisfied with their job.
- 15 respondents are extremely agreed that there is any significance difference in the perception of employees on their bank relies upon them to perform important work w.r.t their job levels and type of banks.
- 10 respondents are extremely agreed that there is any significance difference in the perception of employees whether their role is in sync with the mission/objectives of the company with respect to their job levels and type of banks.
- 40 respondents are aware about merger.
- 10 respondents are agreeing that "appraisal of the financial performance of banks" can be the reason behind the merger of BOB, DENA bank and VIJAYA bank. While, 20 respondents are neutral in their response and 10 respondents are disagree upon them.
- 37 respondents say that there is any difference in operating system of bank after merger.
- 37 respondents say that there is any difference in operating system of bank after merger.
- 15 respondents say that time management is one type of hurdles employee might find after merger. While 15 respondents say that threat of losing job is one of the hurdle employees might find after merger.
- 15 respondents are extremely agreed that there is any significant difference in the level of job satisfaction among bank employees experienced a merger with respect to their job levels and types of banks.
- 38 respondents say that the merger of the banks is beneficial in your development.
- 20 employees say that the benefit of merger of bob, DENA bank and VIJAYA bank is found in the terms of competition in the banking sector.
- 30 employees show their acceptability towards their merger decision.
- 32 employees consider that comfort ability in working conditions, routine business operations and number of account holdings are conditions for job satisfaction level after the merger of BOB, DENA BANK and VIJAYA BANK.

SUGGESTIONS

- The perception and misconception regarding the merger should be made clear in the mind of the employees of the expected bank. So that the post-merger process of the banks goes smoothly.
- The appraisal of financial performance of the bank post-merger is accepted to be found positive which in reality as per the survey is lagging behind from the objective.
- The biggest question post-merger was the point of time management which somewhere led the employees towards discomfort and uneasiness.
- The banks expected to get the benefit of merger in the competitive condition which seems to be not much successful. In order to achieve the objectives, banks need to provide proper training to their employees. So that the acceptance of the merger decision proves to be fruitful.
- Training & Development in the pre-merger duration to their employees can make the task of merger and post-merger operations easy and ready to accept as the employees are already trained, clearing their mind and can easily be set into new tune.

CONCLUSION

- The sample area was Porbandar city. So, I cannot able to find out the views at state or global level. But the scenario of post-merger according to Porbandar bank employees was good. The government announced the merging of Bank of Baroda, Vijaya Bank and Dena Bank. Cleaning of the balance sheet and minimising NPAs is the objective of the latest merger announced by the government.
- The strategy which the government has adopted is merging one weak bank with its stronger counterparts. In this case, the weaker bank is Mumbai-based Dena Bank.
- The three banks involved consist of two strong and one Prompt Corrective Action (PCA) bank. While two banks criss-cross one another in geographical space, the third becomes strategically significant being based in the south.
- The merger comes at a time when all PSBs are walking the thin edge negative profits.
- The success of this merger, according to analysts, is crucial for future such attempts.
- Capital will be higher when merged together and will give a feeling of a stronger bank. Large banks with larger lending capacity.
- It will provide efficiencies of scale and help improve the quality of corporate governance for the banks.

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ANALYTICAL STUDY ON TECHNICAL ASPECTS OF EARTH–SIZED TELESCOPE

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ABSTRACT

The earth-sized telescope can be helpful to look into the depths of the space. But by the current strength of mankind knowledge it seems impossible to create one. The Event Horizon Telescope (EHT) consists of global network of radio telescope forming a large telescope array. The project of the EHT collects and combines data from several very-long-baseline interferometry (VLBI) stations around Earth with angular resolution sufficient to observe objects the size of a super massive black hole's event horizon. The project's objective is to observe several targets within or away from the Milky Way Galaxy which include the two black holes with the greatest with the largest angular diameter as observed from Earth: the super massive black hole at the center of the supergiant elliptical galaxy known as Messier 87 or M87 (The black hole will come to know as Messier 87 or M87*), and Sagittarius A* or Seg A* at the center of the Milky Way. The event Horizon Telescope project, launched in 2009, is an international collaboration. This project is launched after long period of theoretical and technical developments. Theoretically, work on the photon orbit and first simulation of what black hole would look like progressed to predictions of VLBI imaging for the Galactic Center black hole, Seg A*. Technical advances in radio observing moved from the first detection of Seg A*, through VLBI at progressively shorter wavelengths, ultimately leading to detection of horizon scale structure in both Seg A* and M87. The collaboration of this international project comprises over 300 members, 60 institutions, working over 20 countries and regions.*

Keywords: Event Horizon Telescope, Black Hole, Messier 87, Sagittarius A

1. INTRODUCTION

1.1 Seg A* and M87*:

Sagittarius A*(Seg A*) and Messier 87* (M87*) are the observation targets of EHT which are at the center of Milky Way and Messier 87 Galaxies, respectively. Seg A* is 25,640 light years away from earth whereas M87* is 53.49 million light years away from the earth.

Seg A* and M87* are the super massive black holes (SMBH) situated at the center of their galaxy. To observe and capture image of the objects which are very much distant to earth requires earth sized telescope which sounds absurd according out current understanding (might be possible in future). The functionality of the earth sized telescope is managed by the Event Horizon Telescope by keeping the array of the telescopes throughout the world.

1.2 Event Horizon Telescope (EHT):

Event Horizon Telescope is created to work in such a way that it will be able to expand the vision towards the depths of the outer space. Used to observe the objects which are several to many light years away from the earth. Multiple deployed telescopes around the earth are work together to achieve the functionality which solves the problem of creating the earth sized telescope.

The Event Horizon Telescope (EHT) is the collection of many radio observatories or radio wave facilities which are deployed throughout the world. Complete composition of the distributed telescopes work together to produce a high-sensitivity, high-angular-resolution telescope. Through the technique of very-long-baseline interferometry (VLBI), many independent radio antennas separated by the hundreds or thousands of kilometers can act as a phased array, a virtual telescope which can be pointed electronically, with an effective aperture which is the diameter of the entire planet. The effort includes development and deployment of submillimeter dual polarization receivers, the highly stable frequency standards to enable very-long-baseline interferometry at 230–450 GHz, higher-bandwidth VLBI back ends and recorders, as well as commissioning of new submillimeter VLBI sites.

For simple understanding, the EHT works in such a way that all of the deployed telescopes array throughout the world focus on an object. The telescoped which are deployed in an entire world are synced and produce the date for the interpretation. There exist a predefined image of how the black hole would look like and then the date collected via the EHT compares all the data with the predefined data. Of course this process of comparison of new data is done after the Image Reconstruction algorithm.

1.3 CHIRP (Algorithm):

CHIRP (Continuous High-resolution Image Reconstruction using Patch priors) is a Bayesian algorithm used to perform a deconvolution on images created in radio astronomy. The acronym was coined by lead author Katherine L. Bouman in 2016.

The CHIRP algorithm was developed to process data collected by the very-long-baseline Event Horizon Telescope, the international collaboration that in 2019 captured the black hole image of M87* for the first time. CHIRP algorithm was an algebraic solution to extract information from radio signal producing data by an array of radio telescopes scattered around globe. CHIPRP does not used for the production of the image. Stable sources (that don't change over short periods of time) can also gain signal by integrating the change at each location with the rotation of the earth. Because the radio telescopes used in the project produce vast amounts of data, which contain gaps, the CHIRP algorithm is one of the ways to fill the gaps in the collected data.

2. LITERATURE REVIEW

The observation of the immediate environment of a black hole with angular resolution comparable to the event horizon is a long standing goal in astrophysics. Such observations could lead to images of strong gravity effects that are expected near a black hole, and to the direct detection of dynamics near the black hole as matter orbits at near light speeds. This capability would open a new window on the study of general relativity in the strong field regime, accretion and outflow processes at the edge of a black hole, the existence of event horizons, and fundamental black hole physics.

Observation of the objects such as super massive black hole (SMBH) Messier 87* which is more than 50 million light years away from the earth was difficult previously. But with EHT project such functionality is achieved. EHT is the array of deployed telescopes which are scattered throughout world making the EHT achieve the functionality of earth sized telescope.

The data collected via all the telescopes can be compared after CHIRP Algorithm image reconstruction mechanism to the predefined data of how the black hole would look like. Once the data matched with high precision, the image construction has said to be produce the actual image of the super massive black hole (SMBH) far away from the earth.

3. RESEARCH METHODOLOGY

System uses the data collected by various telescopes array deployed throughout the world. Dataset consists of the visual representation of the predefined knowledge of how the black hole might look like and image collected and constructed via EHT and CHIRP algorithm. The complete image construction of the visual captured by the telescopes array is done before comparison takes place.

Achieving breakthrough to capture the first ever image of the black hole is more of collective efforts of telescopes array image construction algorithm (CHIRP). CHIRP constructs the image by the visuals collected by the EHT.

The earth sized telescope is a theoretical concept but practically pretty bizarre and far-fetched, hence many telescopes are deployed and synced together to work in unity to achieve the functionality of the earth sized telescope. There might be a planet sized (not earth in particular) telescope (or some kind of object that can achieve the same functionality) in the far or may be near future. For the current understanding of the scientists the creation of the EHT is one of the greatest achievements ever.

4. DATA ANALYSIS AND VISUALIZATION

In the movie Intersteller we get a brief look at the supermassive black hole. Set against the blackdrop of bright gas, the black hole's massive gravitational pull bends light into a ring. However, the black hole shown in the movie wasn't real, it was just the artistic representation created using Computer Graphics of how the black hole might look like.

Hundred years ago Albert Einstein published his theory of general relativity and over many years scientists have provided a lot of evidence is support of the theory. But the black hole could not be observed. Although, we had an almost clear idea of how the black hole would look like, we have never actually taken the picture of the real black hole before. But that fact soon changed in the year 2019 when the Event Horizon Telescope (EHT) Collaboration released the first ever image of the super massive black hole at the center of Messier 87 Galaxy. Getting this picture of the black hole was possible because of international team of scientists, an earth-sized telescope and an algorithm that puts together the final picture.

4.1 What is black hole?

The black hole is an object so dense that is sucks up anything that ventures too close even light.

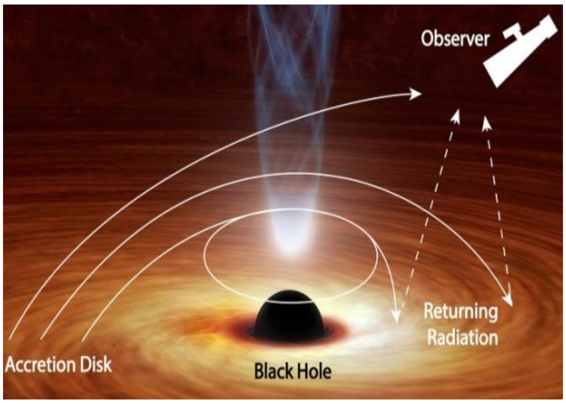

Fig. 1 - Black Hole Depiction

If we were to zoom in at radio wavelengths, we'd expect to see the ring of light caused by the gravitational lensing of hot plasma zipping around the black hole. In other words, black hole casts the blackdrop of bright material, carving out a sphere of darkness. This bright ring reveals the black hole's event horizon, where the gravitational pull becomes so great that not even light can escape. Einstein's equation predicts the size and shape of this ring. However, due to the distance between earth and black hole is much large, the ring appears incredibly small. Hence taking the picture of such an object is very much difficult task.

4.2 Why Earth-sized Telescope?

The black hole is so far away from us that it makes very difficult to capture the image of the black hole. The ring of the black hole appears incredibly small to us as an orange on the surface of the moon. Due to a phenomenon called diffraction, there are fundamental limits to the smallest object that we can possibly see. This all comes down to one equation.

How Small Can We See?

$$\text{Smallest Size} \approx \frac{\text{Wavelength}}{\text{Telescope SIze}}$$

This governing equation states that, to observe the object smaller and farther, the size of the telescope needs to be bigger. Even the most powerful optical telescope on earth could not get closer look into the depths of space.

So the question here is how much big of a telescope we need to get a picture of the black hole? And by calculations it can be said that we would need a telescope the size of the entire earth. And if somehow that telescope is made then we could capture the image of the black hole. This brings us to another question. Can we make the telescope which is size of an earth? Yes of course it seems impossible to make such a large telescope. But the same functionality is achieved by the Event Horizon Telescope (EHT) Collaboration.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

4.3 What is Event Horizon Telescope?

As all of us can imagine, building a single-disk telescope as large as Earth is impossible. But bu connecting telescopes all around the world, an international collaboration called Event Horizon Telescope is creating a computational telescope the size of the Earth, capable of resolving structure on the scale of black hole's event horizon. This network of telescopes can be called as the virtual earth-sized telescope. This telescope took the very first picture of the black hole last year.

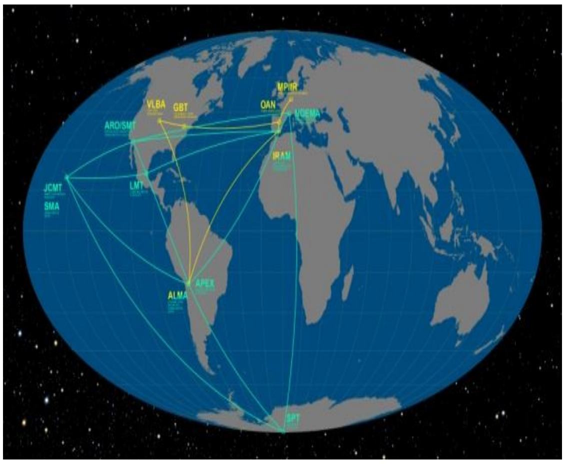

Fig. 2 - Radio Telescopes of EHT Collaboration

Each telescope in the worldwide network works together linked together. This collaboration takes in the thousands of terabytes of data. This data is then processed in a lab in Massachusetts, US. Each telescope in the network collects the light at their specified locations and later all that can be combined together to make a picture. The telescopes scattered across the world collects the observation data and when the earth rotates then the data from different views is also collected which can be helpful in depicting the clearer image of the black hole.

Fig. 3 - A Global Network of Radio Telescope

Such a brilliant mechanism is used to construct the telescope array for the observation of the object which could only be observed via earth-sized telescope. Hence making this telescope the virtual earth-sized telescope which is made up of multiple telescopes but working together for greater cause.

The technique used for the Event Horizon Telescope is called the interferometry, which combines the signals detected by pairs of telescopes, so that the signals interfere with each other.

The CHIRP Algorithm developed by the Katie Bouman could be applied to any imaging system that uses radio interferometry. That same algorithm is also responsible in taking the first ever picture of a black hole at the center of Messier 87 galaxy.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

4.4 How CHIRP Algorithm works?

The solution adapted by the Event Horizon Telescope project is to coordinate measurements performed by the worldwide scattered array of the radio telescopes. But even if there are twice as many telescopes, would leave large gap in the data (approx. 1,000-kilometer-wide antenna). Filling in the gaps generated because of the distance between the telescopes is the purpose of algorithms like Bouman's. Continuous High-resolution Image Reconstruction using Patch priors briefly known as CHIRP was presented by the author Katie Bouman at the Computer Vision and Pattern Recognition conference.

The algorithm traditionally made to make sense of astronomical interferometric data. Assuming that image is collection of individual points of light, and then the points whose brightness and location is best fit corresponding to the data. Then the bright points near each other are blurred by the algorithm, in order to restore some continuity to the astronomical image. To produce the reliable image, CHIRP uses a model which is mathematically tractable but slightly more complex than individual points. One could think of the model as a rubber sheet covered with regularly spaces cones which vary in height but all their bases have the same diameter.

A machine-learning algorithm is to identify visual patterns that tend to recur in 64-pixel patches of real-world images, and she used those features to further refine her algorithm's image reconstructions. In separate experiments, she extracted patches from astronomical images and from snapshots of terrestrial scenes, but the choice of training data had little effect on the final reconstructions.

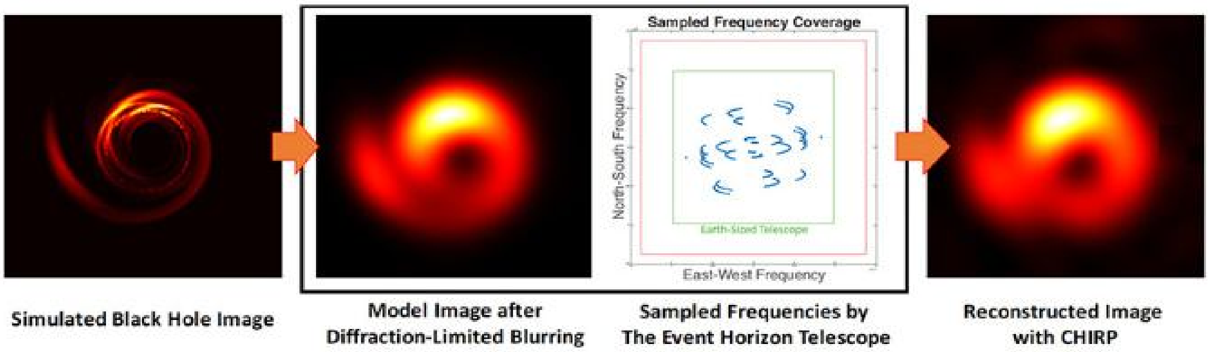

Fig. 4 - Image construction using CHIRP Algorithm

5. FINDINGS

The bit over a one year ago i.e. on 10th April last year, the Even Horizon Telescope (EHT) Collaboration published first ever image of the black which is in the nearby radio galaxy M87. The black hole is then named as the M87* which became the center of attraction worldwide. Many astrophysicists around the world share their thoughts on the achievement and many around the world applaud the EHT Collaboration for their expansion towards the depths of the space.

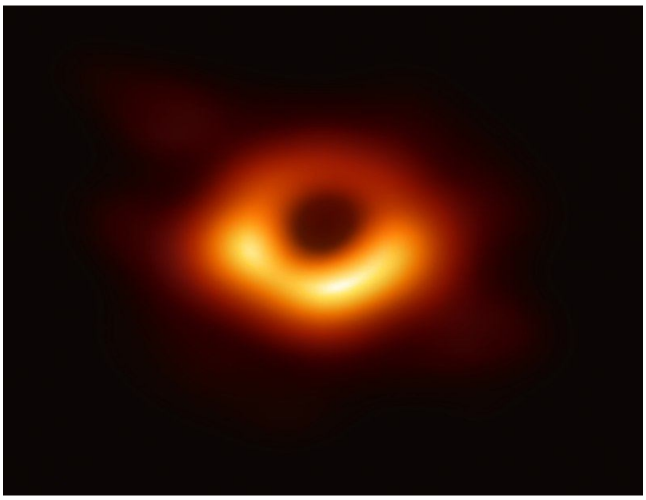

Fig. 5 The first ever picture of a black hole M87* at the center of Messier87 galaxy

The Event Horizon Telescope (EHT) Collaboration could observe the objects which could not be done by the telescopes before EHT. The first ever image of the super massive black hole (SMBH) at the core of the galaxy Messier 87 is released and now everyone knows how the black hole looks like because of the hard works of many scientists and computer programmers and all the people that are involved in the project.

The virtual Earth Sized Telescope became most important part in one of the greatest achievement of the mankind. Looking that far into the space and observing the object which are millions of light years away seemed like the nearly impossible activity at some point in past. Maybe there are not any flying cars in 2020 (which many thought there would) but how science have evolved in the other aspects is really noteworthy.

The next task for the Event Horizon Telescope (EHT) Collaboration is to capture the image of the black hole which is in our own Milky Way galaxy. The EHT is continuously observing the event horizon for achieving that purpose. The Sagittarius A* is the name of the black hole in the center of milky Way and when we get to see the picture of that black hole then that will be the another achievement for the EHT Collaboration and space researchers.

6. CONCLUSION

There are many objects into the space that mankind is unaware of and there are objects which are known but cannot be observed properly. The main objective of the Event Horizon Telescope (EHT) Collaboration was to observe the 2 black holes in Milky Way and Messier 87. EHT Collaboration achieve the task of capturing the image of M87* in Messier 87 galaxy and soon we will learn about the observation of the black hole Sagittarius A* which is in Milky Way.

Many might debate that how this is a breakthrough for the mankind to evolve but in my opinion this achievement is one of many steps and these steps will lead to the path the more advanced civilization. And I am one of many people who believe that the earthlings can achieve the Type II Civilization (according to Kardashev Scale) and the EHT is one of many achievements which leads to that path.

There are many achievements in the field of science and technology throughout the history. Taking a picture of a black hole is not just another achievement but the bigger step towards the advancement of the mankind. The task of taking a picture of the black hole seemed like a impossible task earlier (pre EHT period). But through hard work and joining many hands to work together to achieve a milestone so difficult that it seemed impossible at some point of time. But aren’t there many things nowadays which were impossible before their time.

Like discussed earlier, EHT is set to capture some more objects in next several years. There are many more mysterious out there which are just waiting to be solved and by this achievement we can cross of one entry from that enormous list. And I can say that, this list might keep shrinking in the future and we might not need to wait for long time for that to happen. This era can be called as the era of earthlings’ advancement.

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AN EMPIRICAL STUDY ON NATURAL PLANT-BASED SUGAR FREE SWEETENER

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ABSTRACT

This Research paper is based on survey, is not comprehensive or detailed view of all India population or segment or to predict the action in future.

The main objective of this research is to study the awareness level, which will act as precursor to understand the demand of natural plant-based sugar free sweetener among diabetes patients, part of healthy food, diet & lifestyle as compared to refined sugar.

The Study is aimed to understand the acceptance level of Natural plant-based sugar free sweetener in Diabetes patients through expert opinion. This paper tries to focus on safety benefits advantages of natural plant-based sugar free sweetener when compared to risk of health-related issues caused by refined sugar

This study will be a guiding tool to entrepreneurs and manufacturer to understand the level of need of benefit awareness of natural plant-based sugar free sweetener required in diabetic patients over refined sugar and it will help the manufacturer to create product and services aesthetically.

Keywords: Natural Plant - based sugar free sweetener, Health benefits, Awareness, Acceptance, Diet & Healthy lifestyle, Refined sugar

INTRODUCTION

Stevia is Natural sugar free sweetener plant; this herbal plant is rooted from South and Central America, mainly Paraguay. As per Paraguayans belief - Stevia first used by their ancestors 1500 years ago for its sweet taste. Stevia was first scientifically unfolded in 1899 by Moises Santiago De Bertoni in Paraguay, scientifically recognised as Stevia Rebaudiana Bertoni and it is the most famous variety from more than 200 species and approved in more than 150 countries for consumption.

Stevia is known for sweet-tasting and low-calorie diterpene steviol glycosides (SGs) present in its leaves. The two steviol Glycosides are Stevioside and rebaudioside which are responsible for sweetness of the leaf. Stevioside is sweet however has a bitter aftertaste where as rebaudioside is purely sweet without bitterness.

In India, Stevia is commonly known as Meethi Patti/ Madhu Patra/ Madhu Parani/ Seeni Tulsi. Stevia is 200 to 300 times as compared to refined sugar with zero Glycemic Index and Zero Carbohydrate. In 2008 and 2009, WHO's JECFA (Joint Expert Committee on Food Additives) and FDA stated the use of Stevia is safe for human consumption. In 2011 European Commission authorized the use of Stevia in foods and beverages. FSSAI in India had approved stevia in 2015 for consumption. By using Stevia instead of refined sugar can be extremely beneficial for diabetes patients as studies have shown that consumption of stevia in diabetes patients have shown no effect on blood glucose, HbA1C, Insulin and lipid level.

Globally, Stevia is grown in Paraguay, Uruguay, Brazil, Thailand, Venezuela, Colombia, Peru, Central America, Japan, China, and Israel. China is the largest Producer however as per Mordor Intelligence 2018 Asia - Pacific is the World's largest Stevia consuming Region. Projected Market Value to reach nearly US $ 818 Million by 2024.

In Sep 2017, CSIR IHBT has introduced Stevia as commercial Crop. Stevia is grown in different part of India mainly in Punjab, Haryana, Rajasthan, Madhya Pradesh, Maharashtra, Uttar Pradesh. In India, two most popular varieties of Stevia (MDS-14 & MDS-13) plant developed for low care and high yielding which are best suited for Indian climate and soil.

As per Article published in Diabetes Care 27:1047–1053, 2004, Globally the number of diabetes is projected to rise from 171 million in 2000 to 366 million in 2030, whereas India's diabetes load is expected to cross 100 million mark which is almost 30% of the Worldwide diabetes in 2030.

Now, need of the hour is to develop awareness about safety and benefits of Stevia to manage and control diabetes prevalence as Stevia is the mother nature's boon not only for diabetes patients but also for each and every one who cares about their wellbeing.

REVIEW OF LITERATURE

1. Margaret Ashwell in her article entitled "Stevia, Nature's Zero-Calorie Sustainable Sweetener A New Player in the Fight Against Obesity" published in PMC, Nutrition Today May 2015. Stevia is a natural-origin sweetener that is increasing the options for reduced sugar and reduced energy foods and beverages. Stevia shows promise as a tool to help lower energy intakes, which may lead to the reduction and prevention of obesity.
2. Marjan Ajami et al. in their research published in PMC, Avicenna J Phytomed mrch- April 2020 "Effects of stevia on glycemic and lipid profile of type 2 diabetic patients: A randomized controlled trial" concluded that the highlighted doses of stevia in sweetened tea could be an alternative to sucralose in diabetic patients with no effects on blood glucose, HbA1C, insulin and lipid levels.
3. S K Goyal et al. in their review article (published in Int J Food Sci Nutri. 2010 Feb) on "Stevia (Stevia Rebaudiana) a Bio-Sweetener: A Review"
4. Elevina Parez et al. in their review article published in Journal of Nutrients 2016 entitled "Stevia Derivative and its potential uses in diabetic directed foods. Review" stated that the glycosides from stevia can be used other patients because offer other important therapeutic benefits. There exists production of stevia worldwide, with established procedures for isolation and purification of its glycosides and one of them has been approved for food use. Then, a solid market for processed products must emerge, in order to meet the requirements of these consumers, for reducing or controlling the disease.
5. An article published in TOI by Smitha Mishra dated April 21, 2019 stated that according to Ram Kumar, an eminent Ayurveda Expert and Founder NirogStreet, "In Ayurveda, refined white sugar (refined sugar) is extremely kapha-provoking and can create heaviness, congestion and toxins in the system. Herbs possess an infinite amount of healing benefits, and it is no surprise that they can help us overcome our addictions and sugar damages." With more and more awareness about the threat of overindulging in sugar, an alternative has become imperative. The glycosides in stevia are not metabolized by the body and hence it contains no calories. Stevia seems quite a reasonable alternative for diabetics who cannot consume sugar.
6. Articles published in Vogue India Magazine on 25th Aug'18 by Aparna Gupta stated that "It (Stevia) tastes like sugar, is all natural and hardly contains any calories. It is many times sweeter than processed sugar, so less is required"
7. Article published in TOI dated 13th Nov'18 stated that the extract from stevia plant is hundred times sweeter than refined sugar and can be used in cooking. It does not have a significant effect on blood sugar levels and is considered low glycemic. It does not contain any calories and carbohydrates.
8. As per Stevia Hub India which is a part of Jhanil Healthcare Pvt. Ltd., India's leading sustainable and vertically integrated producer of zero-calorie natural sweetener 'Stevia'.

Stevia extract is a natural sweetener with zero calories and beneficial for diabetics, hypertensive and obese patients. It has proven beneficial for diabetics, obese and hypertensive patients. The white powder is an extract of the sweet glycosides (natural sweeting agents) in the stevia leaf).

These extracts are used to provide a sweet taste without calories in many foods and beverages.

Stevia leaf extracts have been listed as Generally recognized as safe (GRAS) by the FDA for use in foods and beverages.

9. Indra Prakash et al. in their review article entitled "Development of Next Generation Stevia Sweetener: Rebaudioside M" published in Foods 2014, 3, 162-175 stated that rebaudioside M has

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many beneficial properties and abundant potential as a sweetener in beverage and food products. rebaudioside M has the capability to provide zero calories and has a clean sweet taste with slight bitter or licorice aftertaste. Functional in a wide array of beverages and foods, it is also well-suited for blending with other non-calorie or carbohydrate sweeteners. The molecule is stable under dry conditions and its stability is similar to rebaudioside A in aqueous food systems. High-purity zero-calorie natural stevia extract is of great interest to the global food industry because its natural source appeals to many consumers.

10. A research review article by Smita N. Takarkhede published in Asian Journal of Pharmaceutical technology & Innovation in 15th Oct'16 stated that Stevia leaves are leafy vegetable that belongs to family Asteraceae. The various important pharmacological activities of the plant such as antibacterial, anti-inflammatory, antihypertensive, antifertility, antidiabetic, antiseptic, anticancer, Anti-lipid & Anti-Obesity activities. The chemical composition of the fresh leaves of the Stevia consists of glycosides, terpenes and flavonoids have been isolated from leaves & roots of sweet herb. Thus, Stevia leaves are effective natural medication to develop new lead compound by clinical investigation

OBJECTIVE

1. To analyze the awareness level of natural plant-based sugar free sweetener benefits in End Users
2. To understand demand level of natural plant-based sugar free sweetener as healthful alternative to refined sugar in many meals and beverages
3. To understand the acceptance level of natural plant-based sugar free sweetener in food, healthy diet, and lifestyle management
4. To know the understanding level of health protecting benefits of natural plant-based sugar free sweetener compared to health risks related issues caused by refined sugar

PROBLEM STATEMENT

There are many studies on natural plant-based on sweetener and also researcher is more focus on health issues and other benefits regarding this topic, but a gap was observed in the studies is that acceptance of natural plant-based sweetener in Diabetic patient'.

LIMITATIONS

1. Time spend on the study is limited and thus is a major constraint.
2. Area of research is limited to the three places where the sample is collected and therefore cannot be taken as a universal sample is thus also a major constraint.
3. This research reflects opinion of Diabetes Practicing doctors in Mumbai, so findings and suggestion given based on this research cannot be applied to the entire population.

RESEARCH METHODOLOGY

i. Research design

The research conducted was descriptive and analytical, so a Survey method was used. A Survey was conducted through a structured questionnaire tested for reliability and data was collected throughout Mumbai.

ii. Primary data

Primary data was collected randomly through the structured questionnaire in Mumbai & Suburb and Navi Mumbai by using simple random sampling.

iii. Sample size

The study was limited to those participants who willingly elected to complete the instruments in their entirety. There was a total of 175 respondents, of which a figure of 167 was selected for the study.

The sample to which the questionnaire was administered was based on random sampling techniques. The sample distribution was given:

Table 1. Demographic Profile of Respondents

Parameters	Description	Sample (N)	Percentage
Age	21 years – 30 years	55	32.93 %
	30 years – 40 years	64	38.32 %
	40 years – 50 years	23	13.77 %
	50 years and Above	25	14.98 %
	Total	167	100 %
Experience as Physician or Consultant	0 years – 5 years	90	58.89 %
	5 years – 10 years	25	14.97 %
	10 years – 15 years	9	5.39 %
	15 years and Above	43	20.75 %
	Total	167	100 %
Gender	Male	95	56.89 %
	Female	72	43.11 %
	Total	167	100 %

Table 1. source: Primary data

iv. **Sample design**

The researcher relied upon simple random sampling technique, considering the research methodology and research type as per guidelines. A caution was exercised during the study that the respondents who did not show inclination to be a part of the study were not covered.

v. **Area of research**

Mumbai & Suburb and Navi Mumbai

vi. **Secondary data**

The secondary information or data was collected from newspapers, research articles, magazine, and websites.

vii. **Statistical analysis**

Efficient and effective data analysis is the result of effective data preparation. Data preparation involved transferring the questionnaire into an electronic format which allowed and facilitated subsequent data processing. Data sheet was prepared directly at Statistical Package for Social Sciences (SPSS) software for further analysis. Code was assigned to each response for data entry and data record. Based on data sheet, tables and graphs were prepared for the analysis.

HYPOTHESIS

H01: Experts do get queries regarding alternative recommendation for refined sugar by Diabetic patients with related to experience as physician or consultant.

Ha1: Experts do not get queries regarding alternative recommendation for refined sugar by Diabetic patients with related to experience as physician or consultant.

H02: Experts do think There is need of awareness of natural plant-based sugar free sweetener among end consumers with related to experience as physician or consultant.

Ha2: Experts do not think There is need of awareness of natural plant-based sugar free sweetener among end consumers with related to experience as physician or consultant.

H03: Expert do think natural plant-based sugar free sweetener can be part of Healthy diet & lifestyle for diabetic patients with related to experience as physician or consultant.

Ha3: Expert do not think natural plant-based sugar free sweetener can be part of Healthy diet & lifestyle for diabetic patients with related to experience as physician or consultant.

H04: Expert do think natural plant-based sugar free sweetener is safe for diabetic patients with related to experience as physician or consultant.

Ha4: Expert do not think natural plant-based sugar free sweetener is safe for diabetic patients with related to experience as physician or consultant.

H05: Expert do think natural plant-based sugar free sweetener is good substitute for refined sugar for diabetic patients with related to experience as physician or consultant.

Ha5: Expert do not think natural plant-based sugar free sweetener is good substitute for refined sugar for diabetic patients with related to experience as physician or consultant.

H06: Expert will recommend FDA approved natural plant-based sugar free sweetener to diabetic patients.

Ha6: Expert will not recommend FDA approved NPBSS to diabetic patients.

DATA ANALYSIS

1. H01: Experts do get queries regarding alternative recommendation for refined sugar by Diabetic patients with related to experience as physician or consultant.

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Experience as Physician or Consultant	167	339	2.02994	1.631628		
Do you get questions/queries regarding recommending alternative for refined sugar from diabetic patients?	167	191	1.143713	0.123801		
ANOVA						
Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	65.58084	1	65.58084	74.71774	2.34	3.86962
Within Groups	291.4012	332	0.877714			
Total	356.982	333				

Table 2. source: Primary data

Since p-value is more than 0.05 test is accepted.

Conclusion: Experts do get queries regarding alternative recommendation for refined sugar by Diabetic patients with related to experience as physician or consultant.

Finding /Interpretation

The study and the above data reflect the mixed response about the experts do get queries regarding alternative recommendation for refined sugar by diabetic patients. It was seen to be relation between the factors of experiences of respondents. Most of the respondents say there is a query regarding the refined sugar. The 143 total number respondents say “YES” that they get queries from the diabetes patients. But it was also observed that 24 of the respondents say “NO” about the queries regarding alternative recommendation for refined sugar by diabetic patients. But above the analysis say that can be alternative recommendation for refined sugar by Diabetic patients

2. Experts do think there is need of awareness of natural plant-based sugar free sweetener among end consumers with related to experience as physician or consultant.

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Experience as Physician or Consultant	167	339	2.029	1.631		
Do you think there is need of awareness related to benefits of natural plant-based sugar free sweetener among end consumers?	167	680	4.071	0.392		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*

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Vol.40-Issue.89-March, 2020

Between Groups	348.1467066	1	348.1467	344.0144	3.33	3.869
Within Groups	335.988024	332	1.012012			
Total	684.1347305	333				

Table 3. source: Primary data

Since p-value is more than 0.05 test is accepted.

Conclusion: Experts do think There is need of awareness of natural plant-based sugar free sweetener among end consumers with related to experience as physician or consultant.

Finding /Interpretation

Based on the results of a survey, that the maximum respondents say there is need awareness of natural plant-based sugar free sweetener among end consumers. It was observed that ,117 respondents out of 167 "Agree" that there should be need of awareness about it. But the observation also seen that, the respondents belong to 0-5 years of experience are agreed above the condition. But if we compare to, 15 and above experience, 29 respondents out of 167 feels that there should be need of awareness of refined sugar. The observation also concludes that, only 33 respondents out of 167 are "Strongly Agree" above the statement. It was found that there is a need of awareness about the natural plant-based sugar free sweetener among end consumers.

3. H03: Expert do think natural plant-based sugar free sweetener will be part of Healthy diet and lifestyle for diabetic patients with related to experience as physician or consultant**.**

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Experience as Physician or Consultant	167	339	2.02994	1.631628		
Do you think, natural plant-based sugar free sweetener can be part of healthy diet & lifestyle?	167	655	3.922156	0.554145		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	298.9701	1	298.9701	273.56	3.04	3.86962
Within Groups	362.8383	332	1.092887			
Total	661.8084	333				

Table 4. source: Primary data

Since p-value is more than 0.05 test is accepted.

Conclusion: Expert do think natural plant-based sugar free sweetener will be part of Healthy diet and lifestyle for diabetic patients with related to experience as physician or consultant.

Finding /Interpretation

It was analysis that 61.67 % of the respondent are "Agree" that natural plant-based sugar free sweetener can be part of healthy diet & lifestyle. Most of the respondent say that it would be part of healthy lifestyles for diabetic patients. It was analysis that experts are saying that the refined sugar is the best alternatives for diabetes patients. It was also analysis 0.60% of the respondents "Strongly Disagree" as compare to "Agree". If we further also analysis 15.56 % of the respondents "Neutral" with the use of the refined sugar.

4. H04: Expert do think natural plant-based sugar free sweetener is safe for diabetic patients with related to experience as physician or consultant.

Anova: Single Factor				
SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
Experience as Physician or	167	339	2.02994	1.63162

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Consultant						
How Safe is natural plant-based sugar free sweetener for diabetic patients?	167	537	3.215569	1.242407		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	117.3772	1	117.3772	81.68115	1.35	3.86962
Within Groups	477.0898	332	1.437018			
Total	594.4671	333				

Table 5. source: Primary data

Since p-value is more than 0.05 test is accepted.

Conclusion: Expert do think natural plant-based sugar free sweetener is safe for diabetic patients with related to experience as physician or consultant.

Finding /Interpretation

According to the survey, 57.49 % of the respondents say refined sugar are "Safe" for diabetic patients. The respondents are analysis on the basics of there the experience. It is seen, 0- 5 years of experiences experts are saying that the refined sugar are for a diabetes patient. If we observe that, 15 and above respondents, 24 out of 167 response say "Safe". It was observed that 0% of respondents does not agree that the refined sugar is "Very Safe".1.19% of the respondents do say that refined sugar is "Unsafe". The observation also concludes that, most of the respondent found natural plant-based sugar free sweetener is safe for diabetic patients on the experience basis of the respondents.

5. H05: Expert do think natural plant-based sugar free sweetener is good substitute for refined sugar for diabetic patients with related to experience as physician or consultant.

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Experience as Physician or Consultant	167	339	2.02994	1.631628		
Do you think natural plant-based sugar free sweetener can be healthful alternative to refined sugar	167	648	3.88024	0.479547		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	285.8713	1	285.8713	270.8172	6.48	3.86962
Within Groups	350.4551	332	1.055588			
Total	636.3263	333				

Table 6. source: Primary data

Since p-value is more than 0.05 test is accepted.

Conclusion: Expert do think natural plant-based sugar free sweetener is good substitute for refined sugar for diabetic patients with related to experience as physician or consultant

Finding /Interpretation

The study also analysis that natural plant-based sugar free sweetener is good substitute for refined sugar and healthy diet for a diabetes patient. The observation says 111 respondents out of 167 are "Agree" above the statements. It was analysis that 21 respondents out 167 are "Strongly Agree" with the substitute. Based on the experiences ,15 and above years respondents do agree with the statements

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

6. Expert will recommend FDA approved natural plant-based sugar free sweetener to diabetic patients.

Frequency Table:

N	Valid	167
	Missing	0

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Very Unlikely	5	2.99	2.99	2.99
Unlikely	6	3.59	3.59	6.58
Neutral	18	10.79	10.79	17.37
Likely	94	56.29	56.29	73.66
Very Likely	44	26.34	26.34	100
Total	167	100	100	

Table 7. source: Primary data

Finding /Interpretation

The study also observed that 56.28 % of the respondents are “Likely “to be recommend natural plant sugar free sweetener to diabetes patients. It was also observed that 26.34% of the respondents are “Very Likely” to recommend refined sugar to the diabetes patients. 2.99 % of the respondents are “Very Unlikely” with this recommendation of the refined sugar. but the study observed that majority of the respondent would likely recommend the FDA approved refined sugar.

RECOMMENDATIONS / SUGGESTIONS

Huge population of India along with Globe is going to be affected by Diabetes. It can not only safely used for diabetes patient but also for the entire population globally as well as India as its diabetic hub over to that Indian's has sweet tooth.

Government and its agencies have to play very productive and progressive role to develop forum, policies, laws which encourages stevia farming on the large scale so that farmers & entrepreneurs gets motivated and enthusiastically equipped to make stevia part of main stream production. This largescale production will help to achieve economy of scale for producers which will ultimately beneficial for the end consumers. Stevia cultivation is suitable in temperature range 10ºC - 45 ºC as per ICAR/CAU/SAU/SHU sandy loamy soil is recommended which is largely available in India. Currently only one major institute is available in Pink City Jaipur for guidance and training of stevia farming.

More number of institutions has to be developed to help, guide, train, develop skill, to provide timely consultation and motivation to deal with production and other production related challenges.

Authorities has to invested their thought on similar ideas and suggestion like HCMS request to book one compartment in train for farmers to make ease of transportation of crop & other related material.

ISNA had estimated sugar production of 32.01 million tons in the season 2020-2021 that talked about demand of sugar in India. India is number one sugar production in Asia- Pacific and 2nd largest country globally after Brazil. This sugar is entirely consumed directly on daily basis or indirectly as Sweetener or in some other form in foods and beverages.

Looking at the diabetes prevalence globally & in India as its being mainly Metabolic and lifestyle disorder and its well-known fact that diabetes can be slowed or reversed by lifestyle changes where awareness benefits of Stevia will play Vital role and this awareness has to be taken to higher orbital among people along with the parallel support of large scale production which will satisfy the existing unmet need and future demand of natural plant-based sugar free sweetener - "Stevia".

More importantly, awareness regarding benefits of Stevia is not only crucial for diabetes patients but also equally beneficial to entire human species.

CONCLUSION

As we conclude that the most of the experts gets the query regarding the recommendations about natural plant-based sugar free sweetener. The study also concludes that there is awareness among the end consumers. The experts also recommended FDA approved natural plant-based sugar free sweetener for a diabetic patient. It is also seen in the study, that there is need of awareness related to benefits of natural plant-based sugar free sweetener among end consumers. The experts also agree that natural plant-based sugar free sweetener can be part of healthy diet & lifestyle. The experts also say, that it is Safe to consume natural plant-based sugar free sweetener for diabetic patients. The experts also agreed that natural plant-based sugar free sweetener can be healthful alternative to refined sugar. This study also recommends that natural plant-based sugar free sweetener has future scope among the end consumers.

It was also analyzed that experts have their own opinion about the natural plant-based sugar free sweetener, that, not only a diabetic patient should consume but also all health-conscious people can use it safely.

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ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

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A LOCATION-BASED SMART SHOPPING SYSTEM VIA IOT

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ABSTRACT
This paper presents a completely unique methodology of collaborating correct localization on-line searching and also the sense of security cash wise moreover as for client satisfaction whereas doing searching offline.

In Offline mode, the client must physically devour his purchase, carry cash, credit/debit cards together with them and wait within the long queue to form payments. Wherever as in on-line mode, the applying provides full access to any buy getting the things. Additionally, the payment is per client convenience.

Location of Everything (LoE) may be a promising methodology for up applications. This analysis designed a wise searching platform supported four elements as well as location of everything (LoE) part, knowledge assortment part, knowledge filtering/analyzing part and data processing part. It improves product visibility.

These applications will let retailers understand precisely wherever product is in individual pallets and containers, giving multiplied management over the availability chain method.

Keywords: Online Shopping, IoT (Internet of Things), Electronic Commerce, RFID, Geo-Location, Scanner

INTRODUCTION
Today's world has a quick growing population with a good vary of demand from a range of domains. Customers WHO have to be compelled to purchase totally different product in Walmart or supermarkets wants many time and patience in coordinating among them self for prosperous looking. we'd like to handle this drawback by expeditiously victimization our technologies.

Once a virtual store is ready for a change, businesses to shop for from another businesses, the method is named business-to-business (B2B) on-line scanning.

Online searching could be a style of electronic commerce that sanctions individuals to directly purchase merchandise or services from a vendor over the internet employing an application programmed.

Within the advancement of technologies, the globe is obtaining machine-controlled in several aspects. During this Paper, we have a tendency to portray cheap and inexpensive good go-cart utilizing IoT (Internet of Things) innovations.

Radio Frequency Identification (RFID) could be a technology designed to permit objects, animals and even kinsmen to be known, located, and tracked victimization oftenest signals. The technology has developed over the years and is currently utilized in a good vary of applications.

SCOPE OF PROJECT
The objective of this project is to get rid of and improve the previous looking issues. This main objective of this project discusses the subsequent points:

- The main objective is to stay the user time by providing the simplest looking ways in which a sensible looking.
- I counsel a replacement and quick looking system through the employment of net of Things (IOT), Geolocation, and RFID.
- To overcome the delay within the method of winning the previous ways in which of looking.

- Merging method between AI, net of Things (IOT), image recognition.
- RFID systems are composed of scanner and tags to read them.
- The RFID tag has two substitutes:

1. Antenna.
2. Processor.

- Tags is given a novel fingerprint to be half-tracked severally.
- Tags is on hangtags, stickers, or embedded in things.
- The reader is hand-held or stationary and may vary in size and strength supported purpose
- Tags is active and use battery, or passive and use power from the reader.

SURVEY OF PROJECT

a) Existing System

In the existing system, users haven't got any plan regarding the nearer searching areas/malls. They search manually victimization web and so visit a selected search. This major downside of this technique is that:

- If the merchandise isn't offered in a very explicit search.
- If the merchandise is obtainable however is incredibly expensive compared to different outlets.
- Users are going to be unaware of the offers occurring within the space.
- If a user goes to a replacement place, he doesn’t recognize wherever the searching malls that he has to furnish that search.

b) Disadvantages in Current System

- To execute the software package, internet access is mandatory.
- The software package is specially designed in such a way that an individual will have the permission to feature or modify user documents.
- If individual needs any alteration the user has to head to regional.
- If any individual does not have a good phone, then he cannot use our application.
- If any individual isn't literate, then they won't be able to grasp the operations.

c) Proposed System

This system will be enforced to any search within the neck of the woods or to international branded outlets having retail outlet chains. If outlets area unit providing an internet portal wherever their customers will relish straightforward looking from anyplace, the outlets won’t be losing any further customers to the trending on-line outlets like Flipkart or eBay. Since the appliance offered is out there is on the market is obtainable is accessible is offered} within the Smartphone it's simply accessible and continuously available.

The main purpose of this system is to produce a technology orientated, inexpensive, simple, and rugged system. If an individual isn't used to of the physical location of associate degree item, they're going to hunt for the item and consider an on the spot map of the shop to seek out it. Alternative options embrace a live total of all things within the cart, having the ability to look at the weekly in-store specials and prepared for develop.

d) Security

Theft — RFID movement chase are often paired with sales knowledge and video knowledge to work out if things left the shop in larger quantities than were purchased at that specific time. With this knowledge mass, retailers will see consistently that precise things were taken, that door they exited through, at what precise time, and have HD video of the precise wrongdoer. This knowledge is often

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Vol.40-Issue.89-March, 2020

actioned period of time through alerts to associates, used for observance of general trends, or as proof to figure with authorities making criminal cases.

e) Privacy

If RFID is embedded into commodities itself, hurdle with user privacy may emerge, and track throughout the merchandise style section on a country-by-country basis. Unlike GPS, RFID can't be tracked or pinpointed over giant distances.

f) **Modules Involved in the Project**

- Customer: The target user of the system. A client is to blame for registering them to the location, browsing web site, inserting orders and creating payments.
- Product: Product is that the entity, a client trying to find. A Product are going to be sold to the client.
- Website Administrator: associate entity to blame for managing users, roles and roles privileges.
- Order: Order is associate entity that describes the business dealings. Delivery Person: he's the one who delivers product at given location on given time.

g) Difference between Existing and Proposed system

EXISTING SYSTEM	PROPOSED SYSTEM
1. Manual billing	1.Automatic billing
2. Use Barcode for billing	2.Use RFID TAG for billing
3. Human staff is needed for billing	3.No need of any staff for billing
4. Low product cost but over all expenses are much high.	4.Product is little expensive but over all expense is much low
5. Difficult to track the product	5.Easy to locate or track the product
6. Getting product information is difficult & time consuming	6. Getting product information is easy and no extra time needed
7. It does not disclose any automatic way of indicating to shopper how the total bill is affected as the objects are added or removed from	7.LCD Display is present which will show the updated bill every time the shopper add or remove any object from the cart.

Table: 1

PROBLEM DEFINITION

An experimental product with community group confirmation is that the one that aids the consolation, benefit and strength in daily life looking at huge malls is changing into daily activity in tube cities. There'll be rush at these malls on holidays and weekends. Personalized purchase is completely different and place them in self-propelling vehicle.

After completion of purchases, one must head to counter for payments. At counter, the cashier prepares the bill victimization along with Universal Product Code reader that is incredibly time-consuming method and ends up in long queue at counter.

In this Project, we tend to secure measure in implementing a system "RFID" being developed to help an individual in terms of reduced time spent whereas getting the important objective of projected system is to produce a technology inward bound, inexpensive, and rugged system for helping looking personally.

DATA FLOW OF PROPOSED SYSTEM

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Vol.40-Issue.89-March, 2020

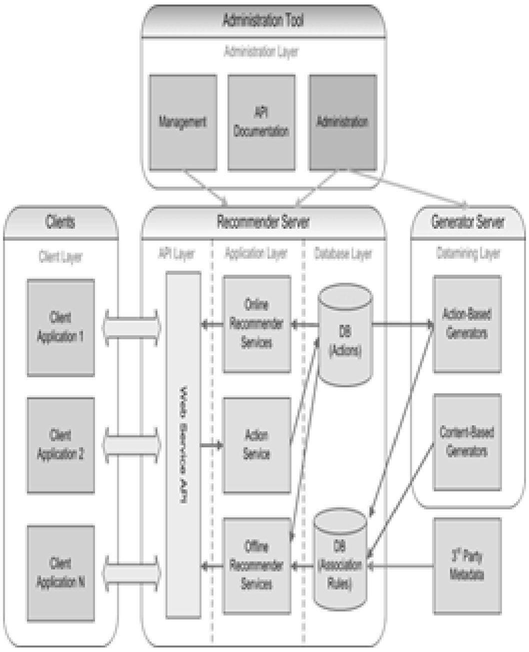

Fig. 2

LIMITATIONS

- The projected system doesn't build use of tangled routing system design.
- Rather it uses easy algorithms so as to banish existing issues.
- Model may be additional extended to stop the loosing of the intelligent/smart pushcart.
- It may be finished that the initial price of the model could also be high however the in succeeding years the model is going to be helpful as compared to the system victimization barcode or manual system.
- Further, an additional advanced small controller, larger show module and a service to pay the bill at intervals the cart by victimization swapping card may be used, therefore providing the purchasers higher services, improved client expertise and up time complexness to a good extent.

FUTURE ENHANCEMENT

The projected system doesn't create use of tangled routing system design. Rather it uses straightforward algorithms so as to banish existing issues.

Model is additional extended to forestall the loosing of the intelligent/smart pushcart. It is over that the initial price of the model is also high however the in ensuant years the model is useful as compared to the system exploitation barcode or manual system.

Further, an additional advanced small controller, larger show module and a service to pay the bill at intervals the cart by exploitation swapping card is used, so providing the shoppers higher services, improved shopper expertise and rising time complexness to an excellent extent.

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ISSN: 2394-3114
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PERFORMANCE ANALYSIS OF PUBLIC SECTOR BANKS IN INDIA: A STUDY WITH REFERENCE TO CORPORATE SOCIAL RESPONSIBILITY

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ABSTRACT
The main purpose of the study is to analyze the corporate social responsibility (CSR) activities carried out by Indian commercial banks. The study is based on the secondary data taken from the annual reports of the banks for the year 2016-17 to 2018-19. Variables used in the study are: rural branch expansion, priority sector lending, environment protection, community welfare, women welfare, new initiative related to CSR, financial literacy, education and farmers' welfare. The analysis shows that though the Indian banks are making efforts in the CSR areas but still there is a requirement of more emphasis on CSR. There are some banks which are not even meeting the regulatory requirements. The public sector banks have the overall highest contribution in CSR activities. Private sector banks and foreign banks are still lagging in this area. The study has a scope of further research where the CSR performance of banks can be related to financial performance of the banks.

Keywords: CSR, banking sector

1. INTRODUCTION
Operations of business affects wide spectrum of areas, and it even impact people who are not connected with the enterprise. The shareholders, the suppliers, the consumers, the local community and the society at large are all affected by the way an enterprise functions. Hence it is expected that a business enterprise would be socially responsible. It is company's sense of responsibility towards the community and environment in which it operates. According to John R.S. "corporate responsibility is the obligation of the organisation to serve its own interest and those of society." According to Friedman (2006) "There is one and only one social responsibility of business- to use its resources and engage in activities designed to increase its profits as long as it stays within the rules of the game, which is to say, engage in open and free completion without deception or fraud".

The banking sector has played a vital role in the growth and economic development of the country. With CSR gaining awareness worldwide; the Reserve Bank of India in the year 2007 issued a notification advising bank to undertake CSR, sustainable development and non-financial reporting. Section 135 of Companies Act, 2013 making it mandatory for each company to spend on CSR, the study makes an attempt to analyse CSR reporting by select commercial banks in India. The study is based on secondary data and tables and bar diagrams is issued for presentation of the data.

1. Objectives of study
- To analyse the CSR spending of select commercial bank in India
- To study and compare the CSR spending of select commercial bank in India.

3. Research Methodology
The study is based on secondary data collected from annual reports of select commercial banks in India.

4. DISCUSSION
A. SBI
The State Bank of India (SBI) is an Indian multinational, public banking and financial services company. It is a government owned corporation headquartered in Mumbai, Maharashtra.. Social responsibility is deeply ingrained in the culture of SBI bank. SBI has been undertaking social welfare initiatives much before the formal CSR concept became common practice or an industry norms. SBI believes that it owes a solemn duty to the less fortunate and underprivileged members of the society to make the sustainable social change in their lives. SBI has been always placed the interest of the common man, especially the most marginalised, at its core. Focus areas of SBI's CSR activities:- Healthcare, Education, Skill Development and Livelihood Creation,Environment Protection.

Area of CSR Spending	2016-2017	2017-18	2018-19	Total (₹ In Crore)
Health	28.56	56.00	47.57	132.13
Education	41.20	19.50	3.57	64.27
Sanitation	13.64	4.04	0.00	17.68
Vocational (training/livelihood)	24.24	0.00	0.00	24.24
Others	4.16	1.98	0.00	6.14
Natural calamities	4.00	2.16	0.00	6.16
R&D Fund	0.00	1.98	7.61	9.59
Sports	0.00	2.21	3.12	5.33
Environment	0.00	4.78	8.86	13.64
Culture	0.00	1.20	0.00	1.20
Disability	0.00	5.41	1.57	6.98
Skill Development	0.00	44.66	17.52	62.18
Total	115.80	143.92	89.82	349.54

B. HDFC BANK

HDFC Bank Limited (Housing Development Finance Corporation) is an Indian banking and financial services company headquartered in Mumbai, Maharashtra. Creating sustainable communities is the underlying that drives HDFC banks CSR initiatives and it springs from one of its core values: Sustainability. The objective is to enable families break the vicious circle of poverty and draw them in a cycle of growth, development and employment without disturbing the ecological balance.

HDFC Bank is committed to identifying and supporting outreach programmes aimed at developing and advancing the community in this manner. The bank works through partnership non –governmental organisational (NGOs).

Area of CSR spending	2016-2017	2017-18	2018-19	Total (₹ In crores)
Financial literacy and Empowerment	7.67	1.00	Nil	8.67
Promoting Education	8.56	9.67	7.47	25.7
Skill Training and Livelihood enhancement	12.53	14.59	18.4	45.52
Health care	7.28	8.26	23.56	39.1
Environment Sustainability	0.95	0.72	1.01	2.68
Poverty Eradication	0.99	Nil	Nil	0.99
Rural development	80.57	93.04	127.08	300
Total	118.55	127.28	177.52	422.66

C. CANARA BANK

Canara bank is engaged in various CSR activities. CSR initiate use of bank are multifarious, covering activities like training unemployed rural youth providing primary health care drinking water community development empowerment of women and other social initiative. The core area of Canara bank has been skill development. A total of ₹ 4496.22 crores spent for last 3 financial years. Another lump sum of ₹ 3512.6 crores is spent on financial literacy.

Rural development is also the trust area of Canara bank. A total of ₹ 1579.6 crores have been spent on rural development through its Canara bank centenary rural development trust (CBCRDT). It has established 34 exclusive training including 26 rural self-employment training institute (RSETIs), science institute of information technology and three artisan training institute to promote entrepreneurship development among rural youth and encourage them to take up self-employment.

Area of CSR Spending	2016-2017	2017-18	2018-19	Total (₹ In Crore)
Education	424.67	472.23	556.74	1453.64
Health	290.71	131.92	274.39	697.02
Poverty & Nutrition	17.91	35.84	15.50	69.25
Art & Culture	20.06	0.00	124.60	144.66
Skill Development	1348.35	1459.87	1688.00	4496.22
Environment protection	11.10	37.11	14.96	63.17

Rural Development	515.94	795.85	267.81	1579.60
Woman Empowerment	50.00	53.00	61.00	164.00
Financial literacy	285.00	262.60	2605.00	3152.60
Person with old age/health	85.93	29.77	0.00	115.70
Total	3049.67	3278.19	5608.00	11935.86

D. ICICI BANK

ICICI bank has set up ICICI foundation for inclusive growth in early 2008 to continue building upon the groups legacy of promoting inclusive growth ICICI foundation focuses on high impact project that are both sustainable and scalable.

The core investment of ICICI bank has been skill development and sustainable livelihoods. A total of ₹ 526.91 million spent on promoting skill development for last 3 financial years. Over 11300 villages are trained at 100 ICICI digital villages in 100 days and over 66% of the participants trained were women. ICICI foundation has been recognized as the top performing rural self-employment training institutes (RSETIs) in the country for the fifth consecutive year by ministry of rural development. A total of ₹ 130 3.2 million has been spent on rural development in last 3 financial years. Total of ₹ 22.908 million is spent on promoting education. ICICI foundation has signed an MOU with government of Rajasthan and government of Chhattisgarh with regard to promoting elementary education.

Area of CSR Spending	**2016-2017**	**2017-18**	**2018-19**	**Total (₹ In Crore)**
Relief and welfare	13.5	6.92	Nil	20.42
Skill development	359.8	159.3	475	994.1
Health care	13.1	12.7	36.1	61.9
Consumer protection	53.8	25	Nil	78.8
Employee Engagement	7.7	Nil	Nil	7.7
Promoting Education	Nil	219.78	9.3	229.08
Rural Development	Nil	0.2	1303.2	1303.4
Promoting road safety	Nil	20.7	Nil	20.7
Total	447.9	444.6	1823.6	2716.1

E. AXIS BANK

Axis bank CSR philosophy is to make a meaningful impact in the lives of economically physically and socially challenged communities of the country through an integrated approach of development which focus is on creating sustainable level road promoting education and skill development creating awareness among public at large.The core area of Axis banks has been promoting education total of ₹ 159. 68 crores has been spent on educational sector. Secondly ₹ 10 5.65 crore has been spent on financial literacy and empowerment. Thirdly a sum of ₹ 52.59 crores for environmental sustainability.

Axis Bank had set up a public charitable trust in 2006 that is axis bank foundation (ABF). It complements the activities being carried out by the bank under its csr policy with sharp focus on creating sustainable livelihood. It has partnered with 100 NGOs across the length and breadth of India since it was set up. ABF has imparted ₹ 10.81 lakhs beneficiaries across the focus areas as on 31st March the 2019 and created 9.12 lakh livelihoods.

Area of CSR Spending	**2016-2017**	**2017-18**	**2018-19**	**Total (₹ In Crore)**
Financial literacy and Empowerment	52.32	30.03	23.30	105.65
promoting/Primary Education	62.80	73.58	23.30	159.68
Education and Skill Development	1.09	2.08	5.23	8.40
Health care / Sanitation	0.06	2.08	0.00	2.14
Environmental Sustainability	5.75	2.08	18.49	26.32
Administrative	1.82	2.08	2.16	6.06
Rural Development	0.00	2.08	3.98	6.06
Total	123.84	114.01	76.46	314.31

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Vol.40-Issue.89-March, 2020

Comparative Analysis of Select Commercial Bank in India (Rs. in Crores)

Crore CSR spending	HDFC	ICICI	AXIS	CANARA	SBI	Total (Rs.in crore)
Promoting Education	25.7	22.908	159.68	1453.64	64.27	1,726.20
Health	39.1	38.68	0.06	697.02	132.13	906.99
Rural development	300.69	130.34	5.65	1579.6	9.59	2,025.87
Skill development	45.52	526.91	8.4	4496.22	62.18	5,139.23
Financial literacy	8.67	0	105.65	3152.6	0	3,266.92
Total	**419.68**	**718.838**	**279.44**	**11379.08**	**268.17**	**13,065.21**

As far as promoting education is concern canara bank has spent significant size of amount i.e. Rs 1453.64 crores.The second position is secured by Axis bank which has spent Rs 159.68 crores on education for last 3 financial years. Second key area of CSR spending is Health care. In this sector, again Canara bank has spent significant amount i.e. Rs 697.02 crores. SBI is at second position with spending of Rs 132.13 crores on health care followed by ICICI bank & HDFC bank.Rural development is also one of the focus areas of CSR spending by banks. Canara bank has spent maximum i.e. Rs 1579.6 on rural development followed by ICICI bank and SBI bank.Canara bank has also spend a significant amount on skill development i.e. Rs 4496.22/-crores followed by ICICI bank which has spent a total of Rs 326.91 crores. Finally, banks have also made a reasonable spending on financial literacy, around Rs 315.6 crores followed by AXIS bank and HDFC bank.

CONCLUSION

The study reveals the CSR practices of select commercial banks in India. An increasing trend can be noticed in last 3 financial years with regard to CSR spending.A total of 13,108.24 crores were spending on CSR by all five commercial banks in last three financial years Among which canara bank has spent a total of 11,379.08 crores on CSR followed by ICICI bank which has spent 718.83 crores for last 3 years.

Education, Health and Sustainable development are the focus areas which have received maximum share of total CSR spending by the bank. Areas like environment, art and culture, sports, women development etc., are areas which have been side lined and hence, require more attention.

The banking sector has played a vital role in the growth and economic development of the country. With CSR gaining awareness worldwide, the RBI in year 2007 issued notification advising banks to undertake CSR, sustainable development and non-financial reporting.

Education, Health and sustainable development are the focus areas which have received maximum share of total CSR spending by the banks.

It can be finally concluded that banks have set a good platform for conducting CSR spending and this will lead to economic development of the country.

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A STUDY ON PERCEPTION OF MILLENNIALS TOWARDS FINANCIAL PRODUCTS FOR RETIREMENT PLANNING AND THEIR INVESTMENT STRATEGY FOR RETIREMENT

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ABSTRACT
Goal based financial planning is one of the important steps in achieving the financial goals. The financial goals differ from individual to individual and are subject to the income and financial levels. However, one of the common and important financial goal applicable to all individuals which is mostly ignored is retirement planning. It has been mostly observed that people tend to give lesser importance for planning for retirement at early stage of life and by the time they realise its importance the time and saving levels are reduced leading to lesser saving for life after retirement. India is the second mostly populated country and is the youngest country in the world which is an advantage for any country. However, the problem of rising old age population which is expected to see a threefold rise caused by increased longevity, decreased fertility etc will be a major concern along with trend of nuclear family, migration issue, increased culture of living alone. This is where one needs to focus on having a retirement plan and start the planning for retirement at an early age so that one has enough funds to cater financial needs when income sources are dried up. This paper attempts to understand the perception of millennials towards retirement planning products and their strategy for investment for retirement. A survey among 120 Millennials has been conducted in order to understand their investment behaviour and perception towards retirement products.

Keywords: Retirement Planning, Millennials, Goal based Investment, NPS, APY

INTRODUCTION
After retirement one of the core issue for any individual is to maintain regular flow of income as expenses remain same or grow higher because of inflation level. This is where the planning for retirement is utmost important which should start from early ages so as to have enough corpus accumulated to provide a regular stream of income to meet their expenses. Hence there is a need of pension plan which will help and individual to achieve its goal of retirement planning. In the ancient India the pension system dates back to 3^{rd} century B.C. where employees of the kingdom who have worked for at least 40 years shall be given half of their wages (G. Gnanasekaran, Dr. K. Prabhakar, 2017). The British introduced the pension system in India after 1857 based on the pension system existing in Britain. However, this system did not encourage the employees to create their own plan for retirement. So, counter these problems the Pensions Act 1871(Act no 23 1871) was brought into force in India which replaced the Pension System of 1857. Further as and when required relevant changes were made in the pension system to meet the rising inflation where by the concept of Dearness Allowance was introduced. In 1881 the first pension was awarded to the government employees by the Royal Commission of on Civil Establishments. The Government of India Acts 1919 and 1935 made relevant amendments to provide pension benefits to the employees in the public sector. However, till then there was no specific social security system for safeguarding the old age people from economic deprivation. After Independence in 1952 the Employee Provident Fund Organisation was set up for organisation with more than 20 employees. The Central Civil Service Pension Scheme was brought in 1972 and Central Service Provident Fund was brought in force in 1981for central government employees. There were many social security systems also introduced such as Indira Gandhi National Old Age Pension Scheme, Indira Gandhi National Widow Pension Scheme, Indira Gandhi National

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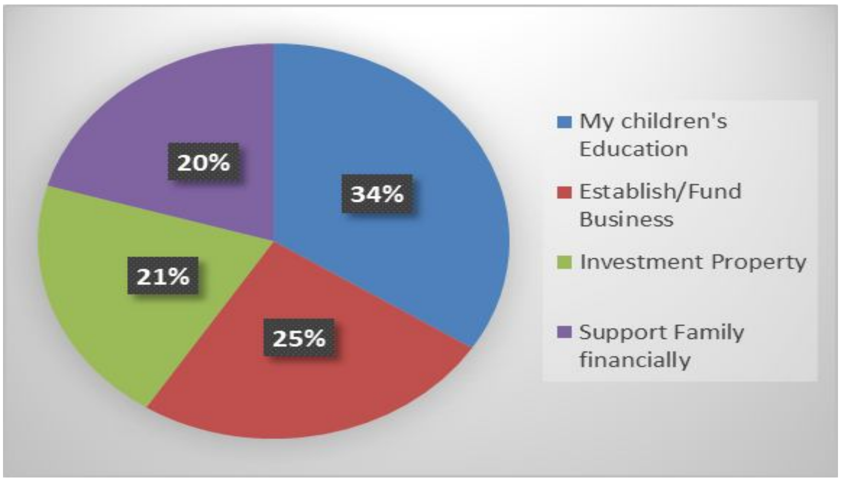
Vol.40-Issue.89-March, 2020

Disability Pension Scheme, National Family Benefit Schemes. However, private sector employees are not covered by any government pension schemes.

The Government of India in 2004 scrapped the Old pension Scheme and introduced a Defined Contributory (DC) scheme where employee and employer both contribute in the scheme at 10% of Basic + DA and avail tax benefits on such contribution. In 2009 investment in NPS was made accessible to the public at large, specifically to cover the private and the unorganized sector employees. However even after a decade majority of the working population are not covered by the pension schemes and the target set by PFRDA is not been achieved. The reason behind such a low penetration level of the scheme is that a most of people are not aware of the scheme and those who are aware are not keen to join the scheme or they don't join due to lack of clarity, longer holding period, lack of modern ways of investment such as UPI, lesser liquidity etc. In addition to securing the old age for the lower strata of the society in the year 2015 Government introduced Atal Pension Yojana. In 2019 the Government launched Pradhan Mantri Shram Yogi Mandhan scheme for people belonging to underprivileged and marginalised section and are below the age of 40 and have no other pension coverage and are employed in the unorganised sector. Further to provide pension coverage to the small retailers whose turnover is less than 1.5 crores and for the person below the age of 40, the government has launched Pradhan Mantri Karam Yogi Mandhan scheme. The reason behind lack of coverage of the people in such schemes is lack of awareness and majority of the people find these schemes unattractive so they refrain from investing in such schemes. Moreover, the youth don't prioritise retirement as a financial goal so they do not have a favourable perception and attitude towards pension products which also indicates that there is lack of financial planning among the youth and they focus more on short term goals rather than long term financial goals. The consequence of this is that in case of lack of financial planning in the early ages and in absence of any financial assistance from Government, will lead to a financial crisis at the time of retirement when the ability to earn income is will be reduced and income sources will be dried up. With the help of a financial plans one is in a position to assess the requirement of funds that one will be requiring to maintain his standard of living considering return on investment, inflation risk appetite etc. Without a financial plan it will be difficult for today's generation to survive during post retirement life. This is where financial literacy and financial education has a huge role to play.

ORIGIN OF THE PROBLEM

India is the youngest country in the world with 65% of the population below the age of 35 and enjoys a demographic dividend. However, the demographic dividend will be declining in the time to come with the decreased fertility rate and increased longevity and increased old- age dependency ratio. The old age population is set to rise three-fold by the year 2050. This makes it essential for every individual to have an old age financial security plan in place for which planning has to be done from early stage of life. However, there have been various researches that shows that retirement planning is ignored by the youth and they only realise its importance in the later stages of life resulting lower savings lower investment lower corpus for life after retirement which ultimately leads to financial stress in old age.



Graph No 1 Standard Chartered Wealth Expectancy Report

A study published by the Standard Chartered wealth expectancy report 2019 indicated that children's education, buying property, establishing business are major financial goals where retirement planning was given the least priority and less risky assets were preferred for investment by the Indians. This reflects that by giving retirement a least priority the youth will end up having less or no financial security during old age.

As per Economic Times 90% of the work force out of the total workforce of 500 million are employed in the informal sector, but the informal sector does not have an adequate financial coverage and the similar situation arises in the organised sector when it comes to pension coverage. The main cause of such no or inadequate coverage is lack of awareness or the acceptance of the pension products. Hence it is necessary to understand the perception of youth retirement products and their investment strategy towards retirement. A basic principle of investment is to start early and the youth should start early to protect their future.

LITERATURE REVIEW

The authors study that the accumulation of the funds done by those who have a financial plan is more than those who don't have a financial plan **Lusardi and Mitchell (2007)**.The author studies revealed that the behaviour planning for retirement is impacted by the attitude of the individual towards retirement planning and found out that the knowledgeable individual's behaviour with respect to retirement has a positive influence on their counterparts with respect to retirement planning **Meltzer, Petras & Reynolds, (1975).**The author conducted a study to recommend better returns from defined benefit pension schemes and gave the following suggestions to enhance returns under such plans which are i) increasing the contribution ii) deferring the superannuation period iii) having life cycle strategies iv) conservative policies to be set as default option v) Risk management in the phase of pay out with life annuities based indexed to inflation. The above measures were suggested as there was lack of confidence among the investor with respect to defined contribution plans due to economic and financial crisis **Antolin (2010)**. **Pereira T et al., (2016)**After studying the perception of the investors with respect to retirement planning **Shailesh Singh, et al., (2017)** has concluded that there is a positive perception with respect to retirement irrespective differences in demography between them and majority were investing for retirement without professional advice which the feels is not recommended. As per the survey conducted by HSBC the working population above of 25 usually start investing in the later years of their job for retirement and they feel the retirement planning and investment is a challenging task. The report also reveals that those who have planned invested early have the financial wealth accumulated thrice as compare to those who have not **HSBC (2012)**. As per the authors those employees who get financial education and mentoring at their respective work place are more confident towards retirement planning as compared to those who are not **Power & Hira, (2004).** The authors suggested that planning practices are based on retirement goals clarity and savings are a result of planning **Stawski, Hershey and Jacobs-Lawson (2007)**

OBJECTIVES

i) To study the preferred investment avenue among today's youth

ii) To find out whether the youth invests based on financial goals

iii) To find out at what age in life the youth plans for retirement.

iv) To study the awareness level with respect to retirement products among youth

v) To analyse the preferred avenue of investment with respect to retirement planning.

vi) To find out what percentage of savings the youth invests towards retirement.

vii) To understand the level of acceptance of pension products among youth

viii) To find out the reasons for acceptance and non- acceptance of pension products as an avenue of investment for retirement planning

HYPOTHESIS

i) H0: There is no relationship between the age of the respondents and their saving behaviour

ii) H0: There is no relationship between age of the respondents and planning for retirement

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Vol.40-Issue.89-March, 2020

iii) H0: There is no relationship between gender and planning for retirement

iv) H0: There is no relationships between occupation of the respondents and proportion of savings allocated for retirement

v) H0: There is no relationship between age and whether respondents invest in retirement specific funds

vi) H0: There is no relationship between gender and whether respondents invest in retirement specific funds

vii) H0: Majority of the respondents are aware and invest in retirement specific plan only for retirement.

viii) H0: There is no relationship between proportion of income saved and percentage of savings invested for retirements.

RESEARCH METHODOLOGY

Research Design

The main objective of this study was to understand the perception of millennials and their strategy towards retirement hence the study is historical and exploratory in nature. The researcher mainly aimed to find out what investment strategies the current generation adopts and how they plan for their financial stability in future.

Data Collection

The first hand data are collected directly from the respondents with the help of questionnaire as an instrument for the study and face to face discussion took place when required. An interview was also administered on certain youth who have their own start-ups in order to understand their investment behaviour.

Population: Millennials from the City of Mumbai

Sampling Technique: The researchers have used convenience and random sampling and selected 131 respondents out of which 11 were filtered out since they were outliers.

Statistical Techniques Used: The collected data had been tabulated in SPSS software for bivariate Chi Square Test analysis, Pearson's Correlation and One way ANOVA to measure the association between demographic variables and awareness, attitude and perception of the millennials towards retirement and retirement specific investment plans

RESULTS & DISCUSSION

Table No : 1 Relationship between gender and whether the respondents invest in retirement specific plan only

ANOVA	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.532	2	.766	4.637	.012
Within Groups	17.838	108	.165		
Total	19.369	110			

From One way Anova test output table we see a significance level of .012 which is less than or equal to 0.05(Pearson) and hence we reject the null hypothesis. This means the One way Anova test is showing a significant association between gender and whether the respondents invest in retirement specific plans only. It has been found that the male respondents invest more in retirement specific plans than females.

Table No. 2: Relationship between Occupation type and Investment

Chi-Square Tests	**Value**	**Df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	22.627[a]	8	.004
Likelihood Ratio	22.342	8	.004
Linear-by-Linear Association	3.678	1	.055
N of Valid Cases	120		

(**Table No. 6: Relationship between proportion of income saved and percentage of your savings invested for retirement**

From the Pearsons Chi Square test output table we see a significance level of .004 which is less than 0.05(Pearson) and hence we reject the null hypothesis. This means the Chi square test is showing a significant association between occupation of the respondents and whether the respondents invest. It has been found that the salaried employees focus more on investment than the rest

Table No 3: Relationship between gender and retirement plan			
Chi-Square Tests	**Value**	**Df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	7.433[a]	2	.024
Likelihood Ratio	7.522	2	.023
Linear-by-Linear Association	7.359	1	.007
N of Valid Cases	120		

From the Pearsons Chi Square test output table we see a significance level of .024 which is less than 0.05(Pearson) and hence we reject the null hypothesis. This means the Chi square test is showing a significant association between gender of the respondents and whether the respondents invest. It has been found that the male respondents focus more on retirement than females.

Table No 4: Relationship between age and whether the respondents invest in retirement specific plan only					
T Test	Test Value = 0				
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower
Age	21.925	119	.000	1.858	1.69
For retirement planning do you invest only in retirement specific plans. (e.g. APY, NPS etc)	44.560	110	.000	1.775	1.70

From the T test output table we see a significance level of .000 which is less than 0.05(Pearson) and hence we reject the null hypothesis. This means the T test is showing a significant association between age and whether the respondents invest in retirement specific plans only. It has been found that the respondents in the age group of 36 to 40 invest in retirement specific plans only.

Table No 5: Relationship between age of the respondents and whether a respondent has a retirement plan			
Correlations		Age	Have you made financial plan for life after retirement?
Age	Pearson Correlation	1	-.213[*]
	Sig. (2-tailed)		.019
	N	120	120
Have you made financial plan for life after retirement?	Pearson Correlation	-.213[*]	1
	Sig. (2-tailed)	.019	
	N	120	120

From the Pearsons Correlation output table we see a significance level of .019 which is less than 0.05(Pearson) and hence we reject the null hypothesis. This means the Correlation test is showing a significant association between age of the respondents and whether the respondents have a retirement plan. It has been found that respondents in the age group of 35-40 do have a retirement plan but the rest do not focus on retirement.

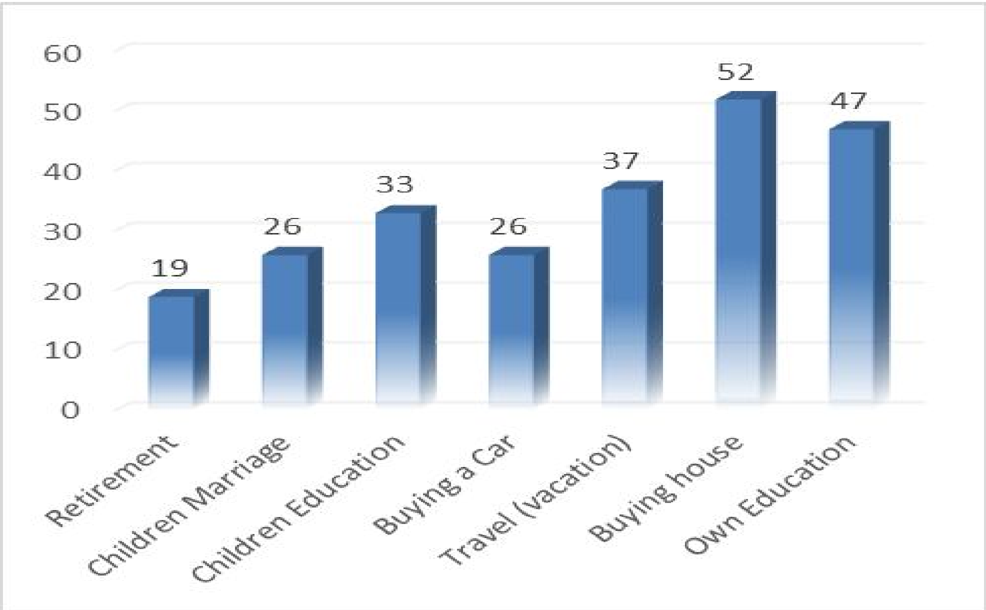
Correlations		What proportion of income do you save?	What percentage of your savings do you invest for retirement?
What proportion of income do you save?	Pearson Correlation	1	-.102
	Sig. (2-tailed)		.465
	N	120	54
What percentage of your savings do you invest for retirement?	Pearson Correlation	-.102	1
	Sig. (2-tailed)	.465	
	N	54	54

From Correlations output table we see a significance level of .465 which is more than or equal to 0.05(Pearson) and hence we accept the null hypothesis. The bivariate Correlation is showing a non-significant association between proportion of income saved and percentage of savings invested for retirement. Whether the proportion of income saved is high or low it has not impacted the investments for retirement.

Table No. 7: Relationship between age and percentage of savings the respondents invest for retirement			
Correlations		Age	What percentage of your savings do you invest for retirement?
Age	Pearson Correlation	1	.267
	Sig. (2-tailed)		.051
	N	120	54
What percentage of your savings do you invest for retirement?	Pearson Correlation	.267	1
	Sig. (2-tailed)	.051	
	N	54	54

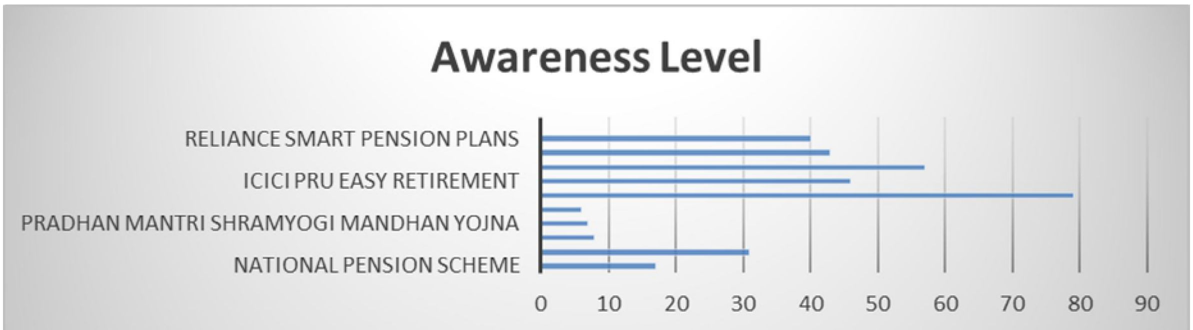
From Correlations output table we see a significance level of .051 which is less than or equal to 0.05(Pearson) and hence we reject the null hypothesis. The bivariate Correlation is showing a significant association between age and proportion of savings invested for retirement. The respondents in the age group of 35-40 invest more for retirement

Graph 1 Financial Goals



While researching about the major financial goals of our target audience that the millennials consider buying their own house and their own education as their major financial goal and retirement is given the least priority in terms of financial goals.

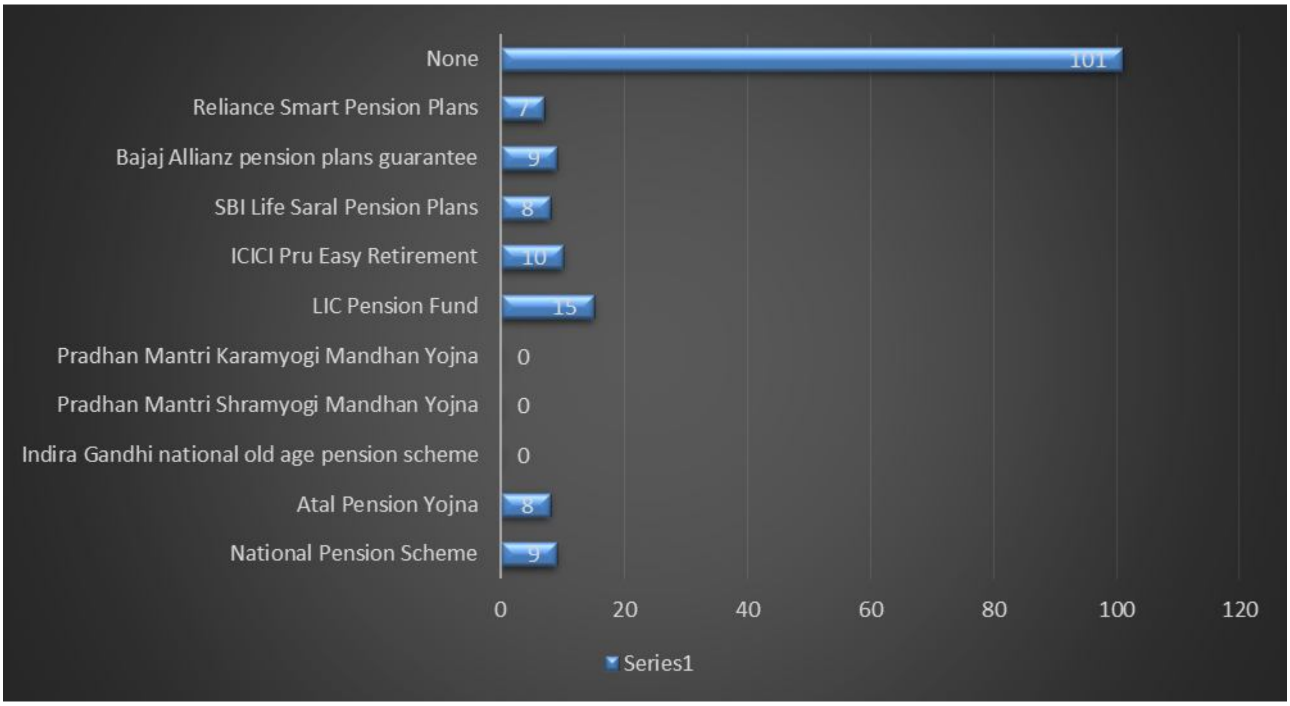
Graph 2 Awareness of Pension Plans



	National Pension Scheme	Atal Pension Yojna	Indira Gandhi national old age pension scheme	Pradhan Mantri Shramyogi Mandhan Yojna	Pradhan Mantri Karamyogi Mandhan Yojna	LIC Pension Fund	ICICI Pru Easy Retirement	SBI Life Saral Pension Plans	Bajaj Allianz pension plans guarantee	Reliance Smart Pension Plans	None
Series1	17	31	8	7	6	79	46	57	43	40	0

It has been observed from our survey that a very minimal proportion of the respondents are aware of Retirement specific plans of the Government such as NPS, APY and the new schemes under NPS such as Pradhan Mantri Shram Yogi Mandhan Yojana , Pradhan Mantri Karam Yogi Mandhan Yojana.

Graph 4 Acceptance of Investments in Retirement Specific Plans



As shown in the above graph we can conclude that among all the individuals who are aware of retirement specific plans not even half of them invests in those plans which that there is a strong need of such plans for attracting better investment to secure their retirement through such plans.

CONCLUSION

It can be concluded from our survey that retirement planning has not been a priority among the youth even though they carry out goal-based investments, only 10 % of the youth invest for the purpose of retirement. The expenses as a ratio of savings among millennials were observed to be as high as 80% which is extremely high which eventually leads to lower investment. Most of the respondents don't even plan for retirement. Those who are even aware of retirement specific plans choose traditional investment over retirement specific plans and retirement specific plans are hardly selected by a fewer respondent to secure their retirement. It can be concluded from our research that the main reason for lack of investment in retirement specific plans are lack of awareness about the product, not consulting the financial planners and experts for investing for retirement, followed by longer lock in period, lower growth, unavailability as collateral security, lack of availability of modern ways of investing such as UPI platform for investing in retirement products, Lack of Liquidity etc.

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PROBLEMS AND OPPORTUNITIES IN AGRIPRENEURSHIP IN INDIA: A STUDY

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ABSTRACT
The Indian economy is dependent on the agriculture to great extent. More than fifty percent of the population in the country is dependent on agriculture for their livelihood. The farmers in India are facing different types of glitches. The major problem faced by them is regarding the marketing of the product. They are producing in the large quantities but they are not able to get the required rate for their produce. Promotion of entrepreneurial skills among them will help them to increase their sale as well as the amount of profits. Agripreneur is an entrepreneur whose base of business is agriculture or agriculture related. They are adopting innnovative ideas in agriculture to market therir products more efficiently. Agripreneurship is an entrepreneurial process in agriculture for getting better output and better profitability. With regard to the present situation prevailing in the economy there is a lot of opportunities available for the agripreneurs to capture the market and increase their earnings. At the same time there will be hurdles in achiving this objective. This study aims to study the potential areas and opportunities for Agripreneurship in India and to identify the various forms of Agripreneurship. Further it also identifies various problems or challenges and future strategies for promoting Agripreneurship in India

Keywords: Agripreneur, Agripreneurship, entrepreneur.

1. INTRODUCTION

Agriculture is cornerstone of Indian economy. More than fifty percent of the population is dependent directly or indirectly on agriculture for their livelihood; therefore a shift from agriculture to agribusiness is a crucial step to bring change or make revolution in Indian agriculture and to make more attractive and profitable venture. Agripreneurship has the potential to contribute to a range of social and economic development such as employment generation, poverty reduction and improvements in nutrition, health and overall food security in the national economy. Agripreneurship has got power to generate growth, diversifying income, providing widespread employment and entrepreneurial opportunities in rural areas. This paper mainly focuses potential areas and opportunities for Agripreneurship in India, its various forms and various problems or challenges and future strategies for promoting Agripreneurship in India. The Farmers are back-bone of our country there comes a need to develop some Agropreneur in current scenario, by adopting the change in terms of use of technology for better productivity and earnings.

2. DEFINITION OF AGRIPRENEURSHIP

Rao and Kumar (2016) define ‘Agripreneurship as the entrepreneurial process taken up in agriculture or allied sectors. It is the process of adopting new methods, processes, techniques in agriculture or the allied sectors of agriculture, for better output and economic earnings: agripreneurship converts agricultural activity into an entrepreneurial activity’.

Yousoff et al., (2015), define ‘Agripreneurship as agricultural entrepreneurship activities which are regulated to produce, distribute, market, or transport agricultural products to generate income, Nagalakshmi and Sudhakar (2013).

3. DEFINITION OF AGRIPRENEUR

Agripreneurs may be defined as ‘innovators who drive change in the economy by serving new markets or creating new ways of doing things in the agriculture sector, thus, an agripreneur may be someone who undertakes a variety of activities in the agriculture sector in order to be an entrepreneur’, Ndedi (2017).

Rao and Kumar (2016) define an agriprenuer as ‘an innovator, who drives change in a rural economy, by adopting innovative ideas in agriculture and allied sectors. He takes risk, adopts innovation, creates new ways of doing things and taps new markets’.

4. LITERATURE REVIEW

Verma, Sahoo and Rakshit (2018) in the paper titled ‘Opportunities in agri-preneurship in India: Need, challenges and future prospects’ importance of agripreneurship discusses regarding the opportunities for agripreneurship, areas of agripreneurship, need of agripreneurship and challenges of agripreneurship. The paper has explained in detailed various challeges and opportunities in agripreneurship.

Reddy (2018) in the paper titled ‘Improving Farmers Income by promoting Agripreneurship on Basis of Shared Economy Principle’ has discuss regarding the benefits and impact of sharing economy to the society, Means of attaining sustainable development in agriculture through agripreneurship based on sharing economy principles. It states that there is a huge need to encourage the agripreneurship in India which make the agriculture more profitable. Adopting the policies of sharing economy in this agripreneurship will make it sustainable.

Uplaonkar, Biradar (2015) in the paper titled ‘Development of agriculture in India through agripreneurs’ has discussed the concept and types, barriers to Entrepreneurship Development. The paper states that Agri-business Centers Scheme can be started to give Training programme. It has aslo stated the role of Agripreneurship in the economy.

Yoganandan & Vignesh (2016), ‘Challenges in Agro entrepreneurship in Tamilnadu, India’ states that the challenges faced by the agripreneur like lack of funds, lack of infrastructure, risk involved etc. It aslo states about the role of agripreneurship in national economy.

5. OBJECTIVES OF THE STUDY:

i. To study the potential areas and opportunities for Agripreneurship in India
ii. To discuss the various forms of Agripreneurship
iii. To identify various problems or challenges and future strategies for promoting Agripreneurship in India

6. RESEARCH METHODOLOGY:

The research paper has collected required information through the secondary sources. The data has been gathered from various research papers and web resources.

7. OPPORTUNITIES IN AGRIPRENEURSHIP

From very beginning to till now India has been considered an agrarian economy. There are several mechanisms worked in the Agripreneurship like forward and backward linkages with secondary and tertiary sectors i.e. manufacturing and service sectors. Opportunities in agriculture and allied sectors can be identified at different phases of agriculture process. Basically, the agripreneurial opportunities are at input stage, farming stage, value chain, output processing and marketing stage and related services. Presently the scope and potential of Agripreneurial opportunities is increasing as a result of globalization and more interconnected world market. Agriculture have several areas of entrepreneurship which include the activities like, Dairying, Sericulture, Goat rearing, Floriculture, Fisheries, Shrimp Farming, Sheep, rearing, vegetable cultivation, nursery farming, farm forestry. There are many potential agripreneurial opportunities for entrepreneurs. Agriculture process needs so many kinds of inputs like seeds, fertilizers, pesticides and innovative and localized farm technology. These favorable prospects and opportunities to establish entrepreneurial activities the areas can be categorized into;

a. Bio-pesticides, bio-fertilizers, vermi-composting, testing and amending soil etc.: A healthy income can be generated through this process. A health hazards can be prevented by using bio products in vegetables and foods. These bio products can be easily produced without much hassles and for a minimum cost of production.
b. Organic farming: Today people are more conscious about health, hence more focused should be given to Organic farming.

c. Seed development: There is a lot of scope for Research and development in seed development. Today many people are involved in doing research and development. They focuses on how these varieties of seeds can be made of better quality and are expected to serve even in unfavorable climatic conditions for realizing maximum revenue and improving living conditions of our farming community, productivity of the crops should be improved which is possible with good management practices along with good quality of inputs

d. Agro tech products: In order to obtain maximum output with minimum efforts, modern farming practices should be encouraged in farms. The modern machines and technology aims at minimizing the efforts and hassle-free work. These modern machines and technology should be encouraged and our farmers should made familiar with these practices. Today Government also support farmers to access these technology in their farms. Hence there is a lot of scope to use these user friendly modern practices to increase the revenue of farmers.

e. Natural manure & pesticide: There is a gradual shift happening from the usage of chemical intensive fertilizers and pesticides to natural manure and pesticides. And this gradual shift is again opening up huge potential and opportunities for production and marketing of bio-pesticides, eco-friendly agro chemicals and natural manures with an objective to maximize the output and leveraging the advantage of seasons. There is an opportunity to go innovative with regard to balance use of fertilizers and pesticides, agrochemicals, adopting multiple cropping and crop rotation to protect and preserves and enhance the quality of soil, using the Agri -tech machines to reduce the cost of cultivation and drudgery of labor etc.

f. Agriproducts processing units: Agriproducts processing units are booming up, there are plenty of opportunities in the areas of farming vegetables, fruits,food grains, pulses, oil seeds etc., developing greenhouse concept, herbal plantation, dairy and poultry development, animal husbandry, grading and packaging of agri products,establishing food processing units, establishing cold storages, sericulture, horticulture and many more. The Agriproducts processing units are booming up.The opportunities are also felt in the areas of value chain, output processing, marketing, and supply chain management of agriculture produce, distribution and logistics.

The Agripreneurship opportunity can be categorised into following heads, such as

i. Agro produce processing units – These units do not manufacture any type of new product. They merely process the agriculture produce e.g. Rice mills, Dal mills etc.

ii. Agro Produce manufacturing units – These units produce entirely new products based on the agricultural produce as the main raw material. Examples are –Sugar factories, Bakery etc.

iii. Agro-inputs manufacturing units – These units produce goods either for mechanization of agriculture on for increasing manufacturing plants, e.g.-Fertilizer production units food processing units, agricultural implements etc.

iv. Agro service centres –These include the workshops and service centre for repairing and serving the agricultural implement used in agriculture.

v. Agro-Food processing and storage units like Cold storages, Banana ripening chambers, minimal processing units, etc.

vi. Miscellaneous areas – Besides the above mentioned areas, the following areas may prove to be encouraging to establish agro enterprises such as setting up of feed processing units, seed processing units, mushroom production units, commercial vermin-compose units, organic vegetable and fruits retail outlet, bamboo plantation etc.

8. **Challenges in Agripreneurship:**Developing entrepreneurship in agri-business is expedient but it is not so easy and simple. In fact, there are several challenges, but not confined to the following only, involved in developing entrepreneurship in agri-business.

a. Inadequate infrastructural facilities:Infrastructural facilities in India are not adquate for devlopment of the agripreneurship. The farmers do not have proper storage facilities and hence their produce has to be kept in open space and it gets spoiled often and due to this they incur huge losses which

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

affects them adversely. Secondly there is lack of transport facilties in the remote areas and due to this their produce doesnot reach to the market in time. Therefore there is a need for the availability of a minimum level of prior-built up infrastructural facilities to undertake any economic activity including starting an enterprise.

b. Lack of education and knowledge:Most of the farmers do not have formal education; they have mostly inherited the knowledge of cultivating. They lack in use of technology for selling their produce. They are forced to use the traditional method of selling their produce through the middlemen and they have to sell it at very low rate.

c. Lack of entrepreneurial skills:The entrepreneur uses innovative ideas to sell its product in the market and to increase its earnings. Normally the produce of the farmers are not sold in the market by them directly. Hence they were not able to develop qualities of entrepreneur among them. Lack of knowledge and awareness is one of the reasons for slow growth of entrepreneurial culture in India.

d. Inadequate knowledge about the market:One of the obstacles in development of agripreneurship is lack of knowledge about the price offered for their products in the market. Normally they end up in selling their produce in the market at lower prices and hence it reduces their earnings.

e. Use of poor technology**:** The low level understanding about the use of technology leads to low level of productivity. Awareness about the use of farmimg equipment will help them to increase their output. Till now many are using same traditional method of cultivating the land, they are not using mechanised farming to improve their productivity. The major challenge is to educate most of them for adopting mechanised farming.

f. Heavy dependent on rainfall**:**Inadequate water facilities have led the farmers to under utilise the capacity of the land and hence there is decline in the output.

g. Lack of skilled and managerial manpower: Rural areas also suffer from rural-urban migration mainly male migration. This results in denudation of educated and skilled manpower in rural areas. Lack of skilled and managerial manpower in rural areas is mainly due to the absence of suitable educational institutions in rural areas. Moreover, people even otherwise belonging to rural areas do not want to go back to rural areas to work due to various problems the rural areas suffer from.

h. Lack of marketing support: The lack of promotional and marketing support for the goods produced by the farmers is a great concern. Production has no value unless it is sold. The major marketing problems faced by agri-entrepreneurship are lack of marketing channels and networks, promotional facilities, support system, poor quality of products, and competition with medium and large-scale enterprises. The enterprises run by agri- preneurs often do not possess any marketing organization.

i. Lack of Awareness about Career in Agripreneurship**:** Entrepreneurial career has not been considered respectable in the society for one reason or other. Especially Entrepreneurship in Agriculture as career has not been taken seriously by the people. As it demands lot of hard work and lack of entrepreneurship skills, opportunities and importance. The awareness regarding the career opportunity in agriculture should be imparted to them. So that there would be many aspirants to take the agriculture as there career.

j. Unresponsive Government Policies:That policy facilitates doing things in a desired and more effective manner. Despite of variousGovernment for Micro Small and Medium policies Enterprises Development (MSMED) Act, 2006. However, there has so far not been any separate policy for agri-business in the country and in the absence of specific policy; the desired development of agri-business sector has been hampered.

k. Inefficiency of government bureaucrats in implementing the schemes**:** The schemes are not implemented by the bureaucrats efficiently and effectively. The benefits of the schemes do not reach to the needy people.

9. CONCLUSION

The present situation prevailing in the economy gives lot of scope for Agripreneurship in our country like easy access to technology, emergence of micro financing, liberalized Government rules, enhancing the potentiality for Agripreneurship in India etc.Many agricultural and allied activities can adopted as new opportunity in the market in an innovative manner. Agripreneurs can use these precision and innovative techniques to increase the income of agricultural produce.Agripreneurship has got power to generate growth, diversifying income, providing widespread employment and entrepreneurial opportunities in rural areas. The potentiality of the country can be tapped only by implementing effective management of agri elements such as soil, seed, water, market needs & other requirements. The situation prevailing in the economy due to the pandemic, the country has huge scope in the development of entrepreneurial skills for the farmers which will help to boost the economy. It will increase the imports provided the quality of the products is maintained which is demanded by the consumers.

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IMPACT OF FRAUDS ON THE INDIAN BANKING SECTOR

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ABSTRACT

Banking sector, one of the growing industries in India. The sector which is responsible for money markets, the financial sector and for the economic growth. Even though this growth is seamless but it consists of lots of efforts and frauds which becomes the rising trend in this market. Because of this frauds banking sector has face crore rupees of loss which term as scams and this creates a need for reevaluating the factors which are responsible for this unsecure transaction and analyzed the trends for secure banking. The present study makes an attempt to review the trends responsible for these frauds and their impacts on Non-Performing Assets (NPA) of the India. Further this study shows how these frauds have the impact on the profitability of banking sector. Along with this it shows how the increasing number of frauds leading to the rise into the NPAs and severely impacting the profitability of banking sector in India. In order to overcome with this situation, the only safeguard is to stringent the security policies and find the new measures for reducing and preventing the number of frauds so the reliability of Indian banks will not only improve but it will also help to provide a new face to the banking sector of India.

Keywords: Banking sectors, frauds, safeguard, non-performing assets

I. INTRODUCTION

The power of any growing economy is set on when we put its banking system into the test. In spite of the recession faced by the economy all over the world, India has managed to reasonably balanced its economy and still has an immense growth potential in this sector. While improving the performance in this sector, it would contain the series of vulnerabilities which are still unaddressed and due to which the image of banking sector gets affected. The main reason for this and which is also one of the primal risk factors is the increasing number of frauds Indian banking sector experiences in past five years.

Fraud becomes one of the major problems that Indian banking sector faced but along with this its increasing number shows that how difficult it is to prevent such kind of fraudulent activities which not only affect the image of banking system but result into the loss of profitability also.

The health of financial and banking system defines the pattern between the production and consumption. It also helps to determine the living standard of the citizens. Therefore, if it has a threat of having frauds and unsecure transactions then becomes a source of worry as it creates more NPAs.

As per the study, the number of frauds increased in recent years are steadily increased. In India, these frauds are considered as a transactional activity, but in reality, it has a really complicated relationship with the profitability of banking sector and the economy of India.

II. LITERATURE REVIEW

Jeffords et al., (1992) "in the period of 9 years between 1981-1989 inspected total 910 cases to get the knowledge about different risk factors involved in frauds. There are approximately 63% of cases were classified as the internal control risks." After this, Calderon and Green (1994) "from 1986 to 1990 made an examination of 114 actual cases of corporate fraud. From this study it is observed that there are 45% of staff members were involved in such fraud cases." Ziegenfuss (1996) also inspect to get to know about the amount and different types of fraud takes place in state and local government.

Bhasin (2007), "inspect the various reasons, dimensions and the manner by which the internal auditors combined in the process of detection and prevention of frauds in banks". To experience the new technology applications is one of the challenges for banks as it will help them to control the frauds and to prevent the security issues.

Ganesh and Raghurama (2008), conducted a survey with 80 executives from Corporation Bank and Karnataka Bank of India. "In this survey they ask their respondents to rate their co-workers in terms of the skills which developed in them after they experienced the training programs provided to them." From the responses it is observed that the skills of the staff members for the 17 different skill sets were increased tremendously. Another study was conducted by Khanna and Arora (2009), to study about the causes which are responsible for bank frauds and the execution of preventive security norms in Indian banking industry.This study "observe that there are multiple reasons behind the frauds that takes place in banks. The study indicates that lack of training is one of the causes for this." overburdened staff, competition, low compliance level are the main reasons for bank frauds."

Bhasin (2011) states that, "Frauds generally takes place when there are insufficient safeguards and prevention controls, or when there is not careful approach to follow, therefore it provides good chances for those who perform fraudulent activities. Frauds are increasing and fraudsters are becoming more experienced and innovative".

Pasricha and Mehrotra (2014) states that "making banking sector free from the electronic crime is also one of the challenges that banking sector facing in today's era." There are multiple operational areas in banking sector which provides a good opportunity for fraudsters, especially in inter-branch transactions, deposit and loan.

Sanjeev Gupta and P. K. Gupta (2015) examined that the administrative system is not that much strong and it redefinition for auditors role is required. This study states that the frauds can be reduced by implementing the safeguard policies and taking conscious actions by auditors and the corporate executives who are willingly avoided these frauds due to the pressures from investors, government security regulators and because of the market fluctuations.

III. OBJECTIVES

1. To get to know about the trends of fraudulent activities which have impact on the Indian Banking Sector.
2. To get to know about the impact of fraudulent activities on the NPAs on Indian Banking Sector.
3. To get to know about the impact of fraudulent activities on the profitability of Indian Banking Sector.

IV. HYPOTHESIS

1. To get to know about the influence of fraudulent activities on the NPAs on our Banking Sector.

H_o: Fraudulent activities don't influence the NPAs of banking sector.

H_1: Fraudulent activities have influence on the NPAs of banking sector.

2. To get to know about how the profitability of Indian Banking Sector affects due to fraudulent activities.

H_o: Profitability have influence of all these fraudulent activities.

H_1: Profitability don't have influence of all these fraudulent activities.

V. RESEARCH METHODOLOGY

For present study purpose, secondary data is used. These data are collected from the RBI's stability reports which published on every year. Along with this RBI's website is used, there are some academic journals which have information regarding banking frauds, some newspapers which have articles written on the same topic

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Vol.40-Issue.89-March, 2020

VI. DATA ANALYSIS

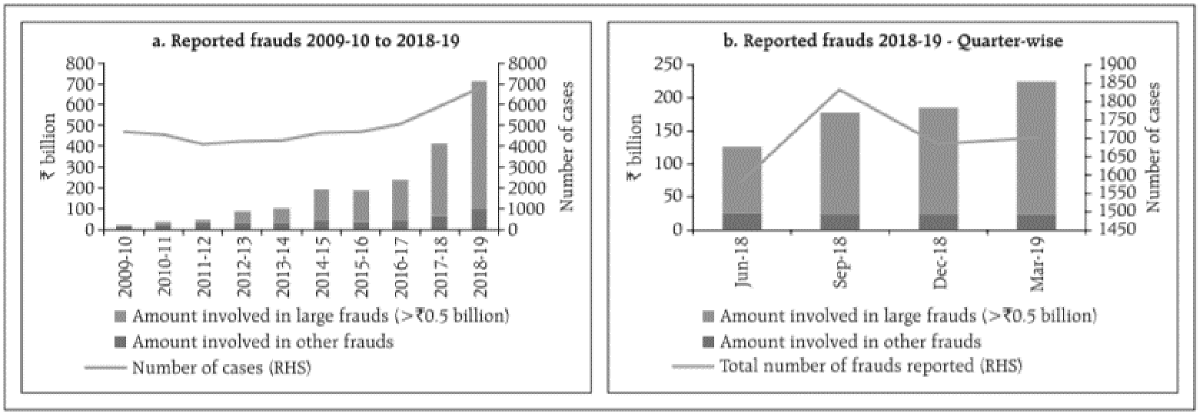
Table 1. Number of Frauds and amount involved in Frauds in Indian Banking Sector

Financial Year	Frauds involving ₹ 1 Lakh and above			
	No. of Frauds	**Percentage Increase**	**Amount Involved (in billions)**	**Percentage Increase**
2013-14	4306	-	101.71	-
2014-15	4639	1.16	194.55	-3.90
2015-16	4693	8.16	186.99	28.00
2016-17	5076	16.57	239.34	72.01
2017-18	5916	7.73	411.68	91.30
2018-19	6801	15.00	715.43	73.8

Source: The Economics Times

Table 1 represents the number of frauds takes place between the year 2013 and 2019 along with the amount involved in these frauds. The table also represents percentage increment in the number of frauds and the drastic increment in amount of frauds.

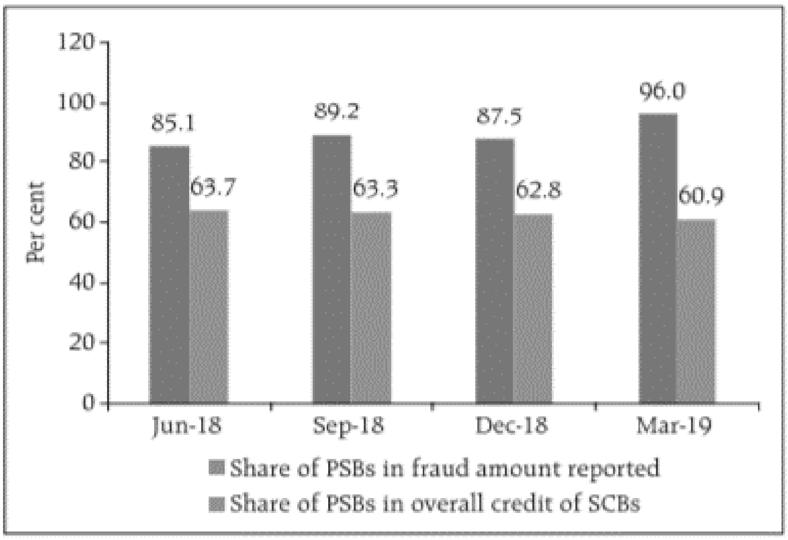
Chart 1: Frauds reported in the banking sector (amount involved > = ₹ 0.1 million)



Source: The Reserve Bank of India Report.

Chart 1 presents the brief analysis of frauds with amounts involving ₹ 0.1 million and above reported in past 10 years.

Chart 2: Relative share of PSBs in overall fraud amount reported.



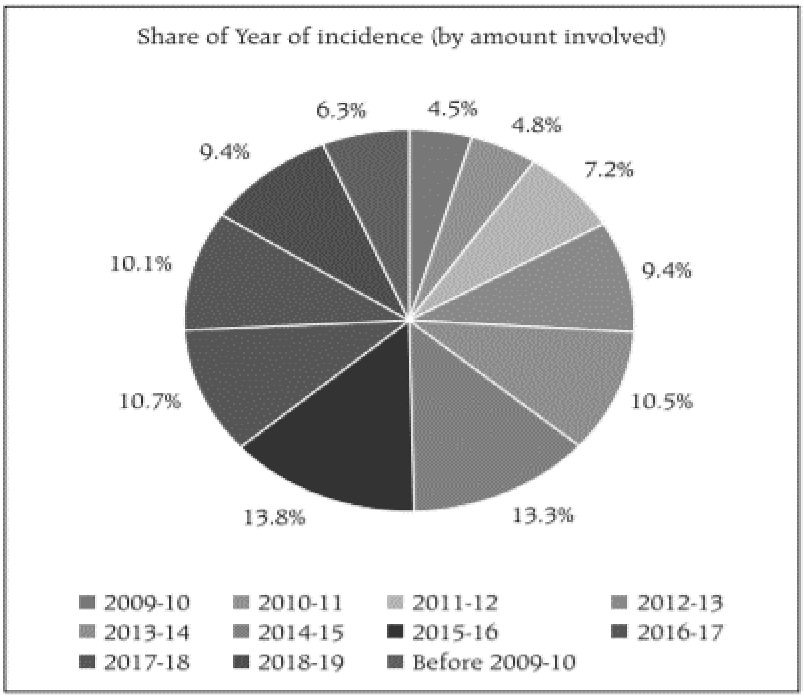
Source: The Reserve Bank of India Report.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

The above chart describes the share of PSBs in the amount of frauds which were reported in 2018-19 was more than that of the share involved in credit.

Chart 3: Vintage of Frauds reported in 2018-19

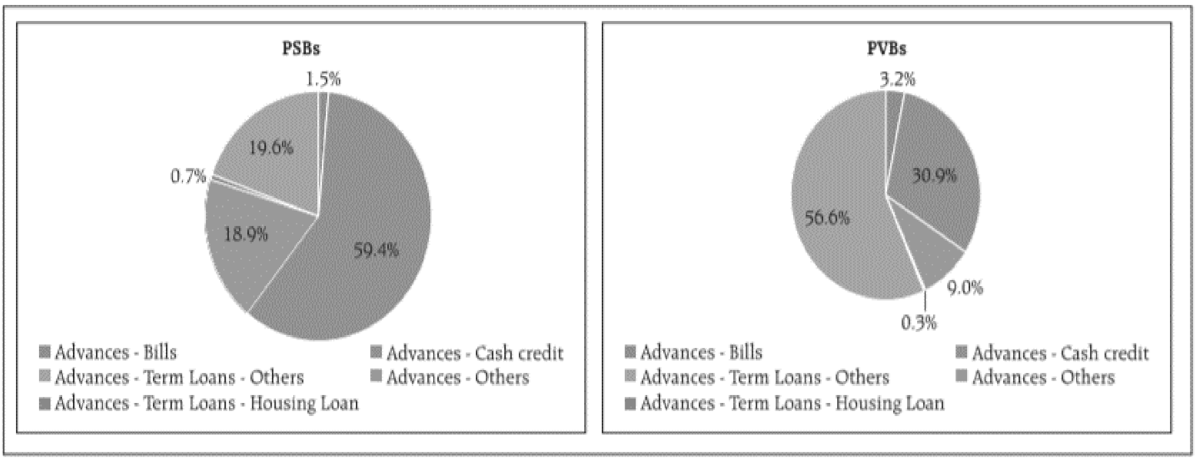
(Amount involved > = ₹ 0.1 million)



Source: The Reserve Bank of India Report.

Chart 3 clarifies there is a time-difference between the date when fraud occurs and the date when it actually reports. There is 90.6% of amount involved in frauds reported in the period from 2000-02 to 2017-18 than that of reported in 2018-19.

Chart 4: Advance related frauds reported in 2018-19



Source: The Reserve Bank of India Report.

As per the earlier trends, it is observed that the loans and the advances related to frauds are still continued to be commanding, in aggregate constituting 90 per cent of all frauds which was reported between 2018 and 2019 by value. The major source of advance related fraud's category consist of the cash credit or working capital loans taken through PSBs and retail loans (non-housing) taken from PVBs.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Table 2 Gross NPAs to Gross Advances Ratio

Year	Gross NPAs to Gross Advances Ratio (%)
2013-14	3.83
2014-15	4.27
2015-16	7.48
2016-17	9.32
2017-18	11.18
2018-19	9.3

Source: RBI Financial Stability Report 2019

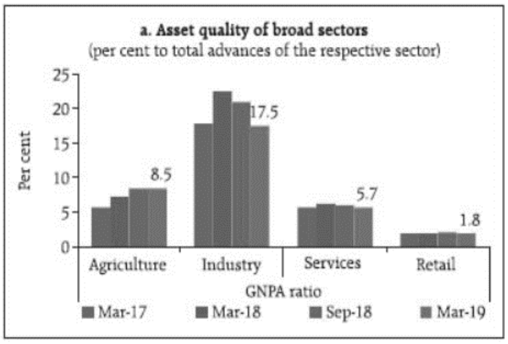
Table 2 provides an overview of Gross NPA to Gross Advance Ratio (%). It is shown that the ratio increases over the year but during FY18-19 it is declined to 9.3 percent as on March 2019 against the peak of 11.18 percent recorded in March 2018.

Table 3 Effect of fraudulent activities on NPAs in the Indian Banking Sector

Regression Statistics	
P-value	0.048
Coefficients	26.41
R^2	0.87
Source: Authors Compilation	

Table 3 shows the regression statistics used to find the effect of NPAs on banking sector. Here, amount involved in frauds is considered to be a independent variable whereas Gross NPA as a dependent variable. From above table, R square value is 0.87 which states that 87% variations in Non-Performing Assets are caused by the frauds. At 5 level percent of significance, frauds have an impact on NPAs. Positive value of coefficient shows that the rise in frauds results into rise in NPAs. With all these observations, we are going to reject the null Hypothesis and summarize that frauds have significant influence on the NPAs in Banking Sector.

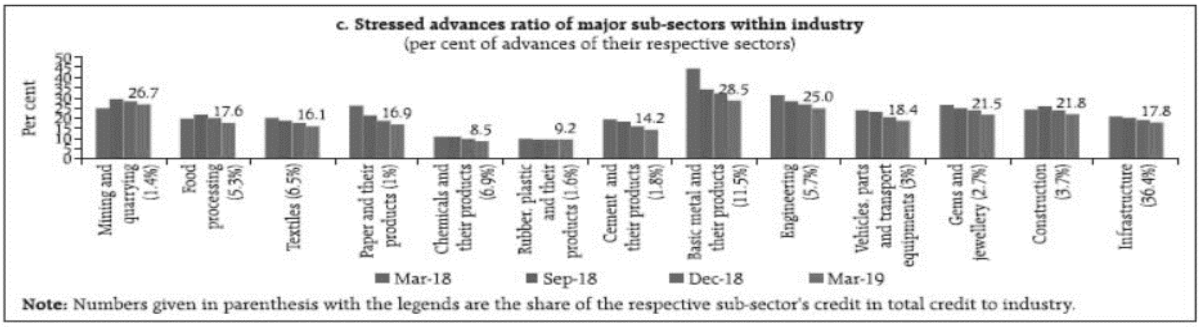
Chart 5 Broad Sector's Asset Quality



Source: The Reserve Bank of India Report.

Chart 5 shows the Broad Sector's asset quality in economy. The Gross NPA Ratio and Stressed Advances are considered as two indicators for asset quality.

Chart 6 Stressed Advances Ratio of Major Sub-Sectors within Industry.



Source: The Reserve Bank of India Report.

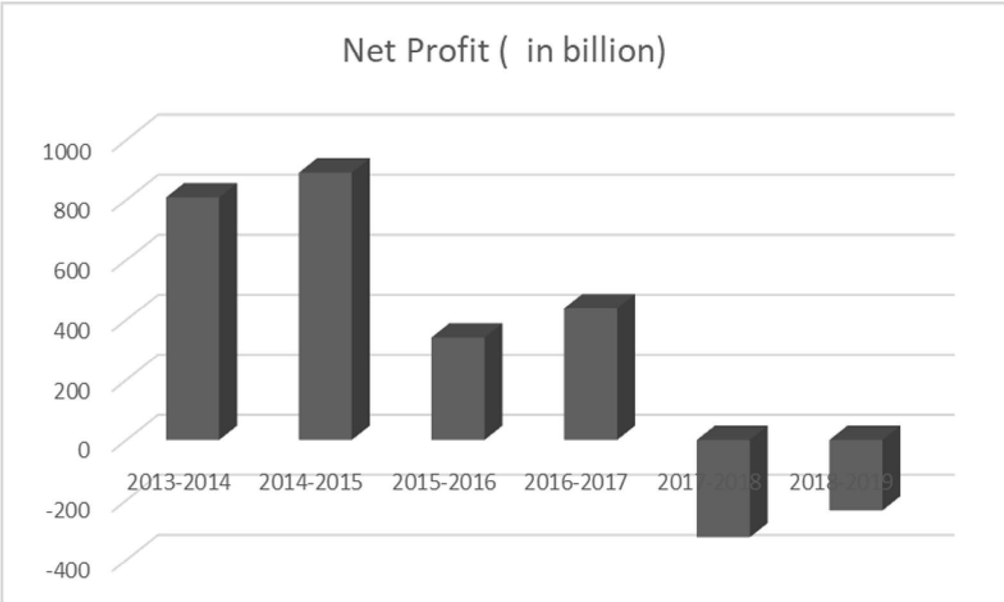
Chart 6 indicates the classification of Asset Quality of sub-sectors withing the different commercial sector. From the above chart we can observe that the Basic metal and their product have the best stressed advances ratio. The stressed advance ration ranging between 5% to 25% of the whole loans advanced in opposite sub sectors.

Table 4 Profit of the schedule banks

Financial Year	Net Profit (₹ in a billion)
2013-2014	809.13
2014-2015	890.78
2015-2016	341.48
2016-2017	439.00
2017-2018	-324.38
2018-2019	-233.97

Source: RBI Financial Stability Report 2019

Chart 7 Impact of Frauds on the Indian Banking Sector



Source: The Reserve Bank of India Report.

Table 4 and chart 7 shows the impact of frauds on the profitability of Indian Banking Sector. It is seen that the profitability of banks continuously declined by the year which is an eye-opener for the Indian banking sector.

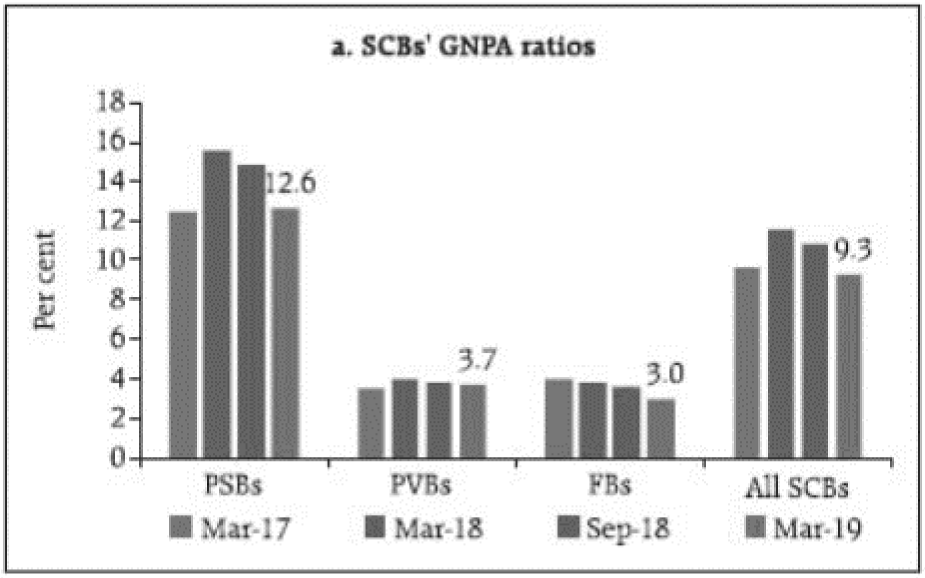
Table 5 Effect of fraudulent activities on profitability of Indian Banking Sector

Regression Statistics	
P-value	0.049
Coefficients	-3.89
R^2	0.82
Source: Authors Compilation	

From the above observations, independent variable is the amount involved in frauds whereas Gross NPAs are treated as a dependent variable for regression analysis. From above table, R square value is 0.82 which states that 82% variations in Profitability are explained by the frauds. At 5 level percent of significance, frauds have an impact on profitability. Negative value of coefficient shows that the rise in frauds results into declining of profitability of banking sector. With all these observations, we are going to reject the null Hypothesis and conclude that the Profitability of Indian Banking sector gets affected due to the Fraudulent activities.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Chart 8: SCB's GNPA ratios



Source: The Reserve Bank of India Report.

Figure 6 gives a brief idea about the Gross NPA for the FY 2018 and also represents the NPAs for FY 2019.The prediction for the year 2018-19 of system level GNPAs has been done using three different and complementary econometric model which includes multivariate regression, vector autoregressive and quantile regression which can involve the risks. There is increase in the projection of NPAs as shown in the figure

VII. CONCLUSION

Due to the post liberalization era, the growth of Indian Banking sector seems to be more but along with that it also faces a lot of challenges; one of them is the number of frauds increasing in day by day activities. These fraudulent activities badly impact the banking sector as it results into losses and also affects banking credibility. It also creates financial dilemmas on banks and their clients, similarly it also causes a big reduction within the quantum of cash which is accessible for economic development.

So, following are the conclusions from the present study:

- The amount involved in frauds is increases as number of fraudulent activities increased.
- Advances taken by the bank is main reason behind many frauds which is again not good for banking sector.
- There is an increasing trend between Gross NPAs and Gross Advances Ratio over the year.
- Fraudulent activities have a major influence on NPAs within the Indian banking sector.
- All these fraudulent activities have adverse effect on the profitability of banking sector which is an eye opener for the sector.

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TOURISM IN KOLHAPUR: OPPORTUNITIES AND CHALLENGES

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ABSTRACT

In recent years, tourism has developed as an industry employing a large number of people. Numerous operational areas in tourism also offer immense opportunities for entrepreneurs to establish their own business - big or small. Now-a-days tourism is considered as the largest industry in terms of employment as well as revenue generation. It consist of diverse operations ranging from tour operations ,travel agencies, hotels, destination development and promotion, airlines, road, rail and water transportation, entertainment, cuisines and so on. Travel and tourism have been important social activities of human beings from ancient times. Tourism has become one of the world's largest and fastest growing economic activities. Kolhapur is a city known for its historical forts, temples and royal places of erstwhile royals. Kolhapur is nationally and internationally well known for its ancient temples, religious importance and sacredness. It is also known as Dakshin Kashi (South Kashi) and it is one of the three important holy places (Shaktipeeth). Local communities should be encouraged to set up small enterprises to supply the services to the Tourism industry (accommodation, food, and material) operational areas in tourism also offer immense opportunities for entrepreneurs to establish their own business. Employment opportunities can be generated by hiring staff locally. The industry has given jobs to a very large number of people and has generated economic activities in the primary, secondary and tertiary sectors in the state, which owes dependence to a large extent to this industry.

The present study is an attempt to assess and analyze the opportunities and challenges of Tourism Industry in Kolhapur. The study also identifies the need of a well-balanced and effective policy of the state government towards the sustainable tourism development in Kolhapur.

Keywords: Opportunities, Challenges, Tourism and Kolhapur

INTRODUCTION

Travel & Tourism is a key driver for investment and economic growth globally. The sector contributes US$8.3 trillion or 10.4% of global GDP, and accounts for 313 million jobs or one in ten of all jobs on the planet The market share of emerging economies, which has already increased from 30% in 1980 to 45% in 2016, is expected to reach 57% by 2030, equivalent to over 1 billion international tourist arrivals. The global trade of tourism is continuously rising and presently it generating $2.5 trillion annual revenue which amounts to 5.5 percent of the worlds gross domestic product and 6 percent of the total volume of trade of the world. Chhattrapati Shahu Maharaja's reign lent a progressive spirit to the city and the king extended his patronage to arts like theatre, film making, music, painting, sculpture, wrestling and crafts like tanning and jewelry making. Of late, Kolhapur has become a prominent center for the Marathi film industry. Kolhapur city is on the banks of River Panchganga and reflects a rich heritage along with a fast growing industrial town. Its importance as a commercial center is well known. Kolhapur is a big market for jaggery (Gul) of which the district is a very large producer. This jaggery is supplied to various parts of India and is exported to different countries. Kolhapur District is one of the shining examples in the Co-operative Movement of India. No doubt, the district has the highest per capita income in the Maharashtra State and one of the highest in the country. Apart from that Numerous Lakes and River Panchganga add to the beauty of the city thus also attracting Leisure Tourism.

Kolhapur's attractions include: New Palace, world's first statue of Babasaheb Ambedkar at Bindu chowk, inaugurated on 7 December 1950, Rankala Lake, the Tara Rani equestrian statue which stands on two of the horse's legs an 85 feet (26 m) idol of the Lord Ganesh at the Chinmaya mission (Top-Sambhapur). At the annual Dusshera procession, the Kolhapur Maybach car of the Chhatrapatis of Kolhapur is displayed to the public. The Rankala Lake is place to visit in Kolhapur. Kolhapur city situated in the south-west corner of Maharashtra, India. Kolhapur, or as it seems to have been formerly called Karvir, is probably one of the oldest religious and trade centres in western India. In the Karavir

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Vol.40-Issue.89-March, 2020

or Kolhapur Mahatmya or account of the greatness of Kolhapur, Kolhapur is mentioned as the Kasi or Benares of the South. City situated on the banks of river Panchganga. Kolhapur is a blend of ancient tradition and modern influences. In 1945, excavations on the Brahmapuri in Kolhapur revealed the existence of an ancient town dating back to the Roman era. Kolhapur had different dynasties ruling it in the past, but it was under the rule of the Marathas that it became a cultural hub. Rajarshi Chhattrapati Shahu Maharaja is an architect and founder of modern Kolhapur. No specific estimates are available on the employment in the travel and tourism industry. The economic census 1998 indicated an employment of 4, 61,000 persons (urban and rural) employed in restaurant and hotels and 3, 87,000 persons working in the transportation industry. There is immense scope for tourism development in Maharashtra. It is one of the very few god gifted states in India endowed by nature with a unique combination of hills, plateau, sea beaches, historical forts and caves. It is reported that over 80% of the people of Maharashtra live in villages. Their chief occupation is agriculture. Tourism leads to employment generation as well as the generation of economic activities. It is suggested that visit of each foreign tourist provides employment to one person and 6.5 domestic tourists generate one job. Temples, beaches, heritage and culture richly adorn the cities of Maharashtra. Tourism has become one of the major sectors in international commerce, and represents, at the same time, one of the main income sources for many developing countries. Today, the sector contributes to 9% of the world GDP – through direct, indirect and induced impact and accounts for USD 1.6 trillion of world exports (6% of the world exports).Some of the major developments are given as below: In addition, the tourism sector has the potential to generate high employment opportunities and at the same time, the spending of both domestic and foreign visitors produces a cascading effect of new money through the economy via the multiplier effect. The multiplier for Travel & Tourism is 3.2 that is for every dollar spent, 3.2 dollars are generated (including indirect and induced impacts). Travel & Tourism is one of the top two job creators with an average of 50 jobs generated per USD 1 million in sales.

In addition, the tourism sector has the potential to generate high employment opportunities and at the same time, the spending of both domestic and foreign visitors produces a cascading effect of new money through the economy via the multiplier effect. The multiplier for Travel & Tourism is 3.2 that is for every dollar spent, 3.2 dollars are generated (including indirect and induced impacts). Travel & Tourism is one of the top two job creators with an average of 50 jobs generated per USD 1 million in sales.

The beneficial economic impacts can be summarized as below: Generation of foreign exchange. Creation of new job and employment opportunities. Stimulation of trade, income and entrepreneurship – especially in the service sector and SMEs. Provision of new infrastructure for non-tourism use. Increased regional development – particularly in isolated areas. Greater tax revenues permitting greater government spending – or reduced taxes on other activities. Cascading of new money through a multiplier effect. Thus, keeping the global as well as local developments in perspective, the Government of Maharashtra understands the importance of the Tourism Sector and the opportunity it presents. The state has identified Tourism as a priority sector. Government of Maharashtra proposes to

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

launch the New Maharashtra Tourism Policy which will replace the existing Tourism Policy of Maharashtra released in 2006. Thispolicy will be a part of thestate' overarching strategy to attract private sector investments in the tourism Sector. Further, this policy will help the state in creating a pro-growth, pro-environment and pro-jobs ecosystem in the state of Maharashtra.

GEOGRAPHICAL DATA

The topographical location of Kolhapur district is latitude N 16.430 and longitude E 74.140. The Height above sea level 574 M., the average rainfall is 1900 mm. Kolhapur is an inland city located in south-west Maharashtra state, 373 km (232 mi) south of Mumbai & 228 km (142 mi) south of Pune, 615 km (382 mi) north-west of Bengaluru and 530 km (330 mi) west of Hyderabad. Within Maharashtra, Kolhapur's nearest cities and towns are Ichalkaranji 27 km (17 mi), Kodoli 35 km (22 mi), Peth Vadgaon 15 km (9.3 mi) Kagal 21 km (13 mi), Kasaba Walva 30 km (19 mi) Sangli 19 km (12 mi), Satara 115 km (71 mi). Kolhapur has an elevation of 569 m (1,867 ft). It lies in the Sahayadri mountains in the Western Ghats. Chandgad is the coolest place in the Kolhapur district. Tambraparni river dam is the spectacular place near Umgaon village. Also nearby dams are Radhanagari and kalambawadi. Panhala 21.5 km (13.4 mi) and Jyotiba Temple 21.7 km (13.5 mi) are close by. It is well connected by air, rail and road. Kolhapur is situated on the Pune – Bangalore National Highway No. 4. There are State Transport buses regularly from Kolhapur to Mumbai, Panaji, Miraj, Sangli, Pune, Satara, Sawantwadi, Solapur and several other places. The Kolhapur Municipal Transport service operates in the city, suburbs and nearby villages. Taxis and rickshaws are also available round the clock.

The climatic conditions in Kolhapur are summarized in the following table:

Temperature Range (Deg °c)	**Maximum**	**Minimum**
Summer:	34° C	24° C
Winter:	27° C	21° C
Rainfall:	1,772 mm	
Clothing:	Light woolen clothes required during November to February	
STD Code:	0231	
Population:	7,97,094 in 2019.	

Source: https://www.newtourismfoundation.com/wp-content/uploads/2020/03/Maharashtra-Tourism-Policy.pdf

Summer season	March – April – May- June
Rainy season	June – July – August – September-
Winter – Autumn season	October – November – December- January- February

Source: https://www.newtourismfoundation.com/wp-content/uploads/2020/03/Maharashtra-Tourism-Policy.pdf

PROBLEM OF THE STUDY

Tourism has been an important source of generating revenue for the government of India. Still today there are various tourist destinations which have remained unexplored across the nation including the state of Maharashtra. There are many tourist places in Kolhapur district of Maharashtra which are required to be advertised and marketed. The present study is significant as it focuses on the tourism opportunities in the said area.

OBJECTIVE OF THE STUDY

The major objectives of present study are as follows:

- To study present status of existed tourist centers in the study area.
- To examine the opportunities and challenges at Kolhapur district.
- To find the places which have potential to develop as tourist destination and modes of transport and to suggest remedies for tourism development.

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

SCOPE OF THE STUDY

The present study namely "Tourism in Kolhapur: Opportunities and Challenges" specifically focuses on the importance of tourism in Indian economy and tourism development in Kolhapur district of Maharashtra. It also suggest the remedial measures to face the challenges in the development of tourism in the said region.

RESEARCH METHODOLOGY OF THE STUDY

So as to attain the objectives of the present research study secondary source of data is used and collected with the help of few web sources and published sources like journals, books, tourist personal experience, etc.

SIGNIFICANCE OF THE STUDY

Tourism has been an important contributor towards India's GDP. Considering its importance the government should give due considerations to its development. The present study will help the government authorities, the tour operators, the hotel owners to frame rational policies for tourism development.

DEVELOPMENT OF KOLHAPUR

The Kolhapur is also blessed with rich history, tradition and culture, which is evident through its world class ancient forts and monuments, ancient cave temples and pilgrimage centers. The state is the leader in the country with respect to foreign tourist arrivals (20.8%) into India and one of the leading states for domestic tourist visits (7.2%).There have been widespread, interrelated global developments and advancements, which have had a strong bearing on the Tourism sector in India (and in Maharashtra).

These include, amongst others: Increased desire and financial mobility for travel of the middle classes (domestic and international).Steep-change increase in air access (airlines, airports and route development) in tandem to decreases in the cost of travel. Growth in the quest of travelers for immersive experiences rich in cultural and natural exposure. Path-breaking innovations in the field of Information Technology, including mobile usage, digital content creation and sharing .More importantly, appreciation of the tourism economy amongst heads of state and policy makers and, increasing tourism-related infrastructure investment. All of these together present a promising possibility of substantially increasing the Tourist attractiveness in the State, both, for International as well as Domestic tourists. Following are the important tourist places in Kolhapur region.

Top Tourist Destinations in Kolhapur

Shri Chhatrapati Shahu Museum New Palace	Binkhambi Ganesh Temple	Kopeshwar Temple
Mahalaxmi Temple	Gangagiri Maharaj Math Temple	Sagareshwar Deer Sancary
Narsinhwadi Datta Mandir	Rankala Lake	Siddhagiri Museum
Panhala Fort	Jyotiba Temple	Gaganbawda
Dajipur Wildlife Sanctuary	Temlabai Mandir	Chinmaya Ganadhish
Sajja Kothi	Bhavani Mandap	Radhanagari Dam
Teen Darwaza	Ramtirth Waterfall	Khasbag Maidan
Bhudargarh	Shalini Palace	Vishalgad

Source: https://www.newtourismfoundation.com/wp-content/uploads/2020/03/Maharashtra-Tourism-Policy.pdf

DEVELOPMENT OBJECTIVES

Ensure sustainable and equitable economic operations and employment opportunities and social services to local community while contributing to poverty alleviation. Allow diversification of income opportunities to farms and ranches that can help buffer fluctuating markets. Exploit vast lands at vantage locations, which are unable to provide basic amenities and facilities to tourists, while providing an unparalleled experience with an opportunity to observe nature from close quarters. Establish Kolhapur as a dynamic business-event destination, where an ecosystem of ideas, people, and technology flourishes, which draws on vibrant knowledge and wide networks. Install a smart ticketing system which will provide a single card for easy facilitation of tourist related transactions across the state. Through this ticketing system special discounts will be provided to youth (under 25) and senior citizens.

DEVELOPMENT ACTION PLAN

Develop local infrastructure, market linkages (both backward and forward integration) and academic centers. The primary occupation/ source of income for any person undertaking Agri tourism should be agriculture/ cultivation activities. Development of wayside amenities along the major National and state highways in Maharashtra. Develop guidelines in participation with local authorities, communities and relevant bodies for visitor management, visitor behaviour, cultural heritage protection, intellectual property protection, etc. Simplification of procedures and single window clearance mechanism for Conference / Exhibitions. Special discount programmes to promote youth tourism. Special discount programmes for senior citizens. Special offers on theme based tourism. (Religious Tourism, Heritage Tourism, Culinary Tourism)**.** Special offers on off-season tourism.

CONCLUSION

Its indicates in Kolhapur District there is overall small positive effect of tourism. Because in the recent days, these centres become popular tourist attraction. People believed that Mahalaxmi is potent so they are much believing on this temple so people visit to this place frequently. In Tourist Opportunities it shows that there is impact on the income of the residents and scarcity of the essential goods in season mostly in the religious places like Narsinhwadi and Jotiba and natural places like Panhala and Amba. Overall in Kolhapur district there is Good Opportunities of tourism. This is observed in Kolhapur city, Narsinhwadi, Panhala and Amba. It shows that development of tourism starts in Kolhapur but not completed. Still there is scope for the service sector to establish in Kolhapur district. Travel Guides opportunity and the traveling agent within the tourist area arrangement done by locals to generate the revenue by the tourist. Tourism has major effect on the economics of destination areas. It often brings new and sometimes necessary sources of capital and income that may supplement or replace traditional sources of earning at destination; and for that purpose tourism development has often received support from the government and local residents. When we talk about the opportunities of tourism, more is known about the economic benefits of tourism than the associated costs. The tourism is stimulating economic development, but these economic benefits have been accompanied by variety of costs which have been largely ignored. At the local level tourism is encouraged due to its ability to generate employment, increased standard of living and provide linkage effects with other sector of the economy. One of the major benefits local communities expect from tourism is a significant contribution to their boost the tourism; increased local income as well as new jobs. Local business operators profits directly from tourists spending. As they pay their employees, and as the business operators and employees spend their increased wealth locally in other businesses, the entire community eventually benefits. Money spent by tourists is new money in the local economy; not just a recycling of wealth already existed there. As a result the basic income from tourism helps to pay for goods and services imported from other regions and contributed to governmental revenues through taxes. Increase in the income of residents, increasing opportunities for shopping and increasing opportunity for Jobs.

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ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

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A STUDY ON AWARENESS AND LEVEL OF IMPACT DUE TO DIGITAL PAYMENT GATEWAY WALLETS ON REVENUE OF ENTREPRENEURS AND FAMILY BUSINESS IN MUMBAI

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ABSTRACT
This research paper is to analyse the awareness about the emerging perspective of new Digital payment gateway wallets on entrepreneurs and family business based in Mumbai. The purpose of study is to find out the level of awareness of different digital wallets and its impact on the revenue. Several studies show study on different e-wallets, its structure, Security aspects and perception of people towards the usage of digital payment gateway etc; To study the impact of such Digital payment gateway wallets on small family business or entrepreneurships we have collected primary data from respondents through a specific formed questionnaire. The data has been analysed through ANOVA and Chi Square. The study concludes that there is a positive impact on revenue of Entrepreneurs as well as family business as digital payment gateway eases the modes operandi in collecting the revenue.

Keywords: Level of Awareness, Impact, Digital payment gateway wallets, Entrepreneur and Family business.

INTRODUCTION
As online transactions continue to increase and become a significant part of the global economy, the ability to accept payments online becomes more important for businesses. This paper evaluates the literature and provides current information for researchers and instructors focusing on impact of electronic commerce on entrepreneur and family business. In this paper, we explore the components of e-credit providers (conventional, person-to-person, and third-party) and explain how each system processes a single transaction. We then analyze several market leaders in each segment and summarize the strengths and weaknesses of each company. We provide guidelines for selecting an e-credit provider and highlight the options that apply best to online businesses. Finally, we outline potential areas of future research and provide a simple tutorial on creating a business account with PayPal website Payments Standard as an example of an online payment provider.

LITERATURE REVIEW
Sanaz Zarrin Kafsh (2015), in her paper “Developing consumer Adoption Model on mobile wallet in Canada”, studied the factors that influence the consumer’s choice of mobile wallets. This study was based on technology acceptance model (TAM) & innovation diffusion theory (IDT). As per the analysis made the paper concludes that there exist correlation between choice of mobile wallet with its ease of use and security terms.

Neeharika P & V N Sastry (2014), conducted a study on “A Novel Interoperable Mobile Wallet Model with Capability based access control framework”, this study focusses on security aspects of online payment applications. It addresses the security issues related to finance related information by giving access control model that can work with interoperable mobile wallets.

Shwetu Kumar, Vijay Yadav,Atiqu-Ur-Rahman, Aditi Bansal(2014),made a study on “Paytm”, it studied about its achievements, technical structure of paytm, technologies and modus operandi of paytm which include a study on supply chain management, web technologies of paytm ,web based tool of paytm and also described about electronic payment system

Akhila Pai H (2018) in research paper “study on consumer perception towards digital wallets” has evaluated the perception of consumers towards e- payment systems and digital wallets through primary survey.The author has also stated that with the increased penetration of internet connectivity and smart phones, the use of digital wallets have been increased. Digital-wallet is getting more and more trendier among the consumers.

RESEACRH GAP IDENTIFIED:

- The previous researches have helped in understanding the customer's preference towards usage of different digital payment gateway wallets in business transaction
- But none of the studies highlight the awareness level of these financial reforms amongst Family business and Entrepreneur.
- This present study is aimed to know the awareness level and impact of Digital payment gateway wallets on revenue of Entrepreneur and family businesses.

RESEARCH METHDOLOGY

Scope of the study

This study is restricted to Mumbai.

Objectives of the study

1. To study the awareness level among Entrepreneur and family business owner about digital payment gateway wallets walletss for business transaction
2. To study the impact of usage of digital payment gateway wallets on the operation across Family businesses and entrepreneur.
3. To study the change in Revenue due to use of digital payment gateway wallets.

Hypothesis of the study

1. H01: There is no significant difference in awareness about Digital payment gateway wallets on entrepreneur and family business

   H11: There is a significant difference in awareness about Digital payment gateway wallets on entrepreneur and family business

2. H_{02A}: There is no significant difference across operations due to use of digital payment gateway wallets on the business.

   H_{12A}: There is a significant difference across operations due to use of digital payment gateway wallets on the business.

3. H_{03A}: There is no significant change in the revenue of the business due to use of digital payment gateway wallets

   H_{13A}: There is a significant change in the revenue of the business due to use of digital payment gateway wallets

Techniques of data collection:

The data was collected through primary and secondary sources. The primary data is collected through a specially designed questionnaire. The secondary data is collected from books journals and information available on the internet.

Sampling Universe

Investors in Mumbai.

Sample Size

100 investors in Mumbai.

Techniques of Selection:

Random Sampling.

Statistical Tools used:

The data collected is duly processed with the help of MS-Excel and SPSS Software. The researchers have selected ANOVA testing and Chi square test for this study.

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Vol.40-Issue.89-March, 2020

DATA INTERPRETATION AND ANALYSIS:

ANOVA					
Mean_awareness: Emerging Perspective					
	Sum of Squares	df	Mean Square	F	p-value
Between Groups	.093	1	.093	.000	.987
Within Groups	18060.140	50	361.203		
Total	18060.233	51			

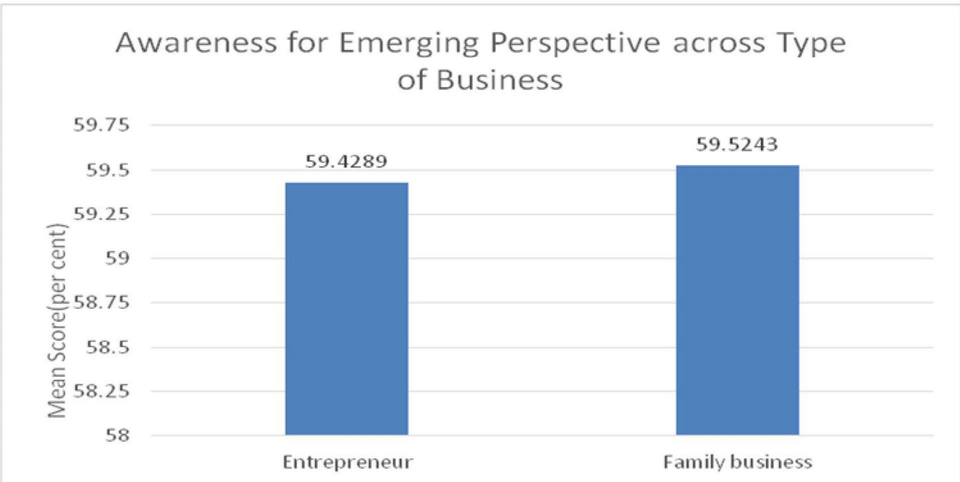
Interpretation: Above results indicate that calculated p-value is 0.987. It is more than 0.05. Therefore F-test is accepted. Hence null hypothesis is accepted and alternate hypothesis is rejected.

Conclusion: There is no significant difference in awareness about emerging perspective on entrepreneur and family business.

Finding is that the mean scores for Emerging Perspective is highly indifferent across the type of Business. This can be observed in the following table:

Report			
Mean_awareness_EP			
Business	Mean	N	Std. Deviation
Entrepreneur	59.4289	38	17.66981
Family business	59.5243	14	22.37430
Total	59.4546	52	18.81814

The above table indicates that the mean score for awareness of Emerging perspective for Entrepreneur is 59.42 per cent and that for Family business is 59.52 per cent. This supports our findings. This information is represented graphically in the below Bar chart:



Test Statistics	
	Q10.Online payment Impact on revenue
Chi-Square	18.500[a]
Df	2
p-value	.000
a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 17.3.	

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

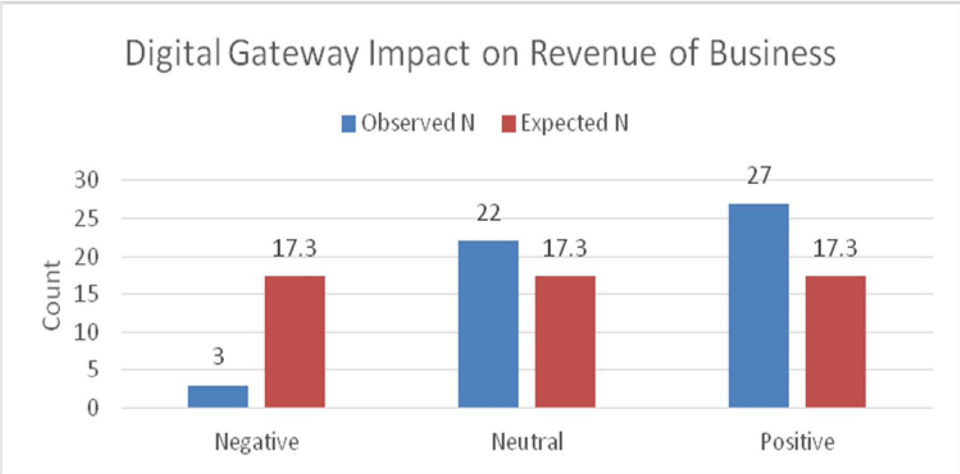
Interpretation: The p-value is 0.000. This is less than 0.05. Hence the Chi-square test is rejected. Hence Null Hypothesis is rejected and Alternate Hypothesis is accepted.

Conclusion: There is a significant difference across various Impact of Digital Gateway on the revenue of the business.

Finding is that as compared to the expected responses there is an increase in the responses for 'Positive Impact' of Digital Gateway on the revenue of the business. This can also be observed in the below table:

Q10.Online payment Impact on revenue			
	Observed N	Expected N	Residual
Negative	3	17.3	-14.3
Neutral	22	17.3	4.7
Positive	27	17.3	9.7
Total	52		

The above table indicates that actual responses for 'Positive Imapct' of Digital Gateway on the revenue of the business is 27, which is higher than the expected responses for the same at 17. This validates our findings about the Impact of Digital Gateway on the revenue of the Business. This can graphically represented in a Bar chart as follows:



Test Statistics	
	Q11.Change in revenue due to online payment system
Chi-Square	7.846[a]
df	3
p-value	.049
a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 13.0.	

Interpretation: The p-value is 0.049. This is less than 0.05. Hence the Chi-square test is rejected. Hence Null Hypothesis is rejected and Alternate Hypothesis is accepted.

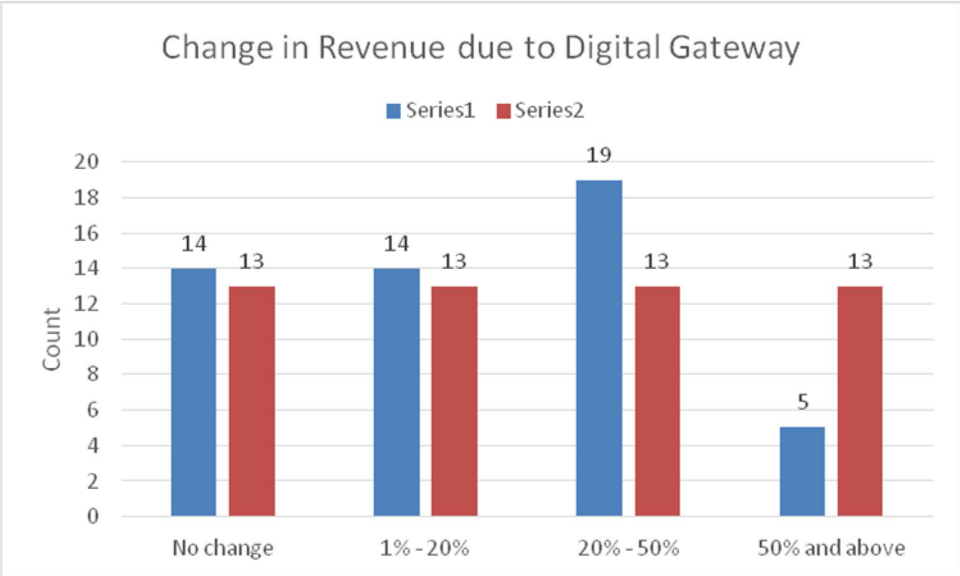
Conclusion: There is a significant change in the revenue of the business due to Impact of Digital gateway.

Finding is that according to the responses there is a significant change in the Revenue of the business due to the impact of new Bank rates. This can also be observed in the below table:

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

Q11.Change in revenue due to online payment system			
	Observed N	Expected N	Residual
No change	14	13.0	1.0
1% - 20%	14	13.0	1.0
20% - 50%	19	13.0	6.0
50% and above	5	13.0	-8.0
Total	52		

The above table indicates that actual responses for '20% - 50% change' is 19, which is higher than the expected responses for the same at 13, suggesting that there is a significant change of 20% to 50% in the revenue of the Business due to impact of new Bank rates. This validates our findings. This can graphically represented in a Bar chart as follows:



FINDINGS

1. There is no significant difference in level of awareness among the family business owners and Entrepreneur. Both the parties have almost same extent of awareness about digital payment gateway wallets used in business.
2. The operations of the business have been positively changed due to use of digital payment gateway wallets
3. The change in revenue collection of entrepreneur and family business owners is increased between 20%-50% due to introduction of digital payment gateway wallets.

CONCLUSION

Null hypothesis is rejected and alternate hypothesis is accepted. Due to emerging perspectives like trending options in digital payment gateways the operation of family owned business and entrepreneur has been positively impacted. Due to use of such digital wallets the revenue recovery for the period has also increased.

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ISSN: 2394-3114
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ENCHANTING MŌKŪR, THE ĀḺVĀRS' VIVIGRAPHY

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Tirumōkūr

Mōkūr (prefixed with *tiru*[i] contextually "auspicious", *maṅgala*; *mōkūr* "intoxicating city"[ii]?) is a Vaiṣṇava *divyadeśa* (Fig. 2) to the west of Maturai on the way to Tiruppattūr by way of Mēlūr. It is close to Ottakkaṭai (at the eastern end of Āṉaimalai[iii] "Elephant Hill" Fig. 1) at its *mastaka* "head" area (Kalidos 2006, pl. I)[iv]. From Ottakkaṭai in the Maturai-Mēlūr highway (Ariṭṭāpaṭṭi, accommodating a rock-cut temple for Śiva, is midway to the north [Kalidos 2006: IV, I, 67], deviating from the mainline), one may turn to his north to visit Āṉaimalai, and from there moving by a country road progress to Aḻakarkōyil, the historical Māliruñcōlai (Rajarajan 2012: 70-75). If turn to the south from Ottakkaṭai and travel some 5 kms, Mōkūr could be reached, and from there further travelling circa 15 kms we are in Tiruvātavūr (Map), the birth-place of Māṇikkavācakar, author of the 8th *tirumuṟai* of the Śaiva canon, *Tiruvāvakam* and *Tirukkōvaiyār*[v]. The history, architecture and iconography of Mōkūr has formed part of the author's doctoral thesis (Rajarajan 2006: I, 44-46)[vi], followed by a brief report in the *Acta Orientalia* (Rajarajan 2012: 81-82). A few inscriptions in the Mōkūr ('Tirumugūr' in Mahalingam 1989: 131-32) are dated in the later Pāṇḍya period (12th-13th century, see note 14). Portrait sculptures of the Marutu/Marudu Brothers of Civakaṅkai/Śivagaṅgā (Rajarajan 2006: pls. 334-335)[vii] who fought against the British imperialism are installed in the temple, which means Mōkūr was an evolving entity down to the end of the 18th century. Earlier scholarship has so far concentrated on literature, literary criticism, history, and philosophy of the hymns and *divyadeśa*s (cf. B.V. Ramanujan 1973, Jagadeesan 1977, A.K. Ramanujan 1981). Very few have found Āḻvārs as the lovers of nature (cf. Rajarajan 2012: 96, 2016: 85). The hymns of Nammāḻvār (8th century CE [see the Āṉaimalai inscription in note 4], 880-930 CE Zvelebil 1974: 107) on Mōkūr amply vivify how the Āḻvārs had an inborn ethos to love the geo-physical setting of the *sthala* and Mūrti. They do find the amplitude of ecology, abundant *tīrtha* (water) and prosperous *vṛkṣa* (flora) going in harmony with each other; cf. Tirumaṅkai Āḻvār's picturesque description of the Cōḻanāṭu *divyadeśa*s in the Kāviri delta, particularly the Nāṅkūr cluster (Hardy 2014: Maps 3-5) and many of these close to Bay of Beṅgāl, e.g., the Kaṇṇapuram/Kaṇṇaṅkuṭi/Kaṇṇaṉur bunch (Rajarajan et al. 2017: IV).

Hymns bearing on Mōkūr

The ensuing part of the essay presents the Romanization of the Tamil hymns bearing on Mōkūr, followed by English summary.

Tiruvāymoḻi[viii]

10.1.1. taḷa tāmarait taṭamaṇi vayaltiru mōkūr[ix]
nāḷum mevi naṉku amarntuniṉṟu acurarait takarkkum
tōḷūm nāṉkuṭaic curikuḻal kamalakkaṇ kaṉivāyk
kāla mēkattai aṉṟi maṟṟu oṉṟuilam katiyē

"The fertile fields at sacred Mōkūr are full of flourishing lotus ponds. The Lord is well disposed to be *āsana* (seated) and in *sthānaka* (standing) mode. He pervades through the venue all time meditating how to overcome the terrorist-demons. The Lord Kālamēkam (Rain-cloud hued) is graced with strong shoulders, beautified by curly locks of hair, lotus eyes and fruity mouth. But for the Lord *Meghaśyāma*, we have no other asylum".

10.1.2. ilamkati[x] maṟṟoṉṟu emmaikkum īṉtaṇ tuḻāyiṉ
alaṅkalam kaṇṇi āyiram pēruṭai ammāṉ
nalaṅkoḷ nāṉmaṟai vāṇarkaḷ[xi] vāḻtiru mōkūr
nalamkaḻa lavaṉaṭi niḻaltaṭam aṉṟiyāmē

"There is no other resort for us in the several births[xii]. The Lord's tiara is decorated with garlands of cold holy basil; his names are in thousands, *sahasranāma*[xiii]. Sacred Mōkūr is the venue where good-natured experts in the bliss giving four-*vedas* (*nāṉ-maṟai*, *caturveda*s) flourish[xiv]. We know nothing else, other than the shade of the Lord's brook of the sacred feet."

10.1.3. aṉṟi yāmoru pukaḻiṭam ilameṉṟueṉṟu alaṟṟi
niṉṟu nāṉmukaṉ araṉoṭu tēvarkaḷ nāṭa
veṉṟuim mūvulaku aḷittuuḻal vāṉtiru mōkūr
naṉṟu nāmiṉi naṇukutum namatuiṭar keṭavē

"We lament again and again because there is no asylum for us. Brahmā, Śiva and the conglomeration of gods stand up seeking help in order that the worlds are rescued from terror-mongers. The Lord struggles at sacred Mōkūr to win over the three worlds from the clutches of demons. It is good; we reach the venue to overcome the time of troubles."

10.1.4. iṭar keṭa emmaip pōntuaḷi yāyeṉṟueṉṟu ēntic
cuṭarkoḷ cōtiyait tēvarum muṉivarum toṭarap
paṭarkoḷ pāmpaṇip paḷḷikoḷ vāṉtiru mōkūr
iṭarke ṭaaṭi paravutum toṇṭīr vammiṉē

"We extol the illuminating Light repeatedly in order that He may reincarnate to extricate miseries of the worlds. The gods and sages pray the Lord should descend to the earth to root out evil terrorism*. He is reposing on snake-bed at sacred Mōkūr[xv]. Savants, ye *bhāgavata*s, come here; let us join to praise the Lord to disentangle our miseries."

* It is not clear whether the Islamic menace is hinted because they had already arrived in the West Coast by about Nammāḻvār's time (Rajarajan et al. 2017a: 421) besides knocking at the doors of the Sindhu in the north diverting from the Silk Road (e.g., Muḥammad bin Qāsim 711-714 CE [Habib 2008: 31]).

10.1.5. toṇṭīr vammiṉ nam cuṭaroḷi orutaṉi mutalvaṉ
aṇṭam mūvulaku aḷantavaṉ aṇitiru mōkūr
eṇṭi caiyumīṉ karumpoṭu peruñcennel viḷaiyak
koṇṭa kōyilai valamceytu iṅku āṭutum kūttē

"Welcome savants, our exemplary Lord is the brilliantly shining 'Solitary Reaper'. He had measured the Cosmos and the three worlds (as Trivikrama). Mōkūr is an enrapturing venue where the temple is surrounded on eight directions by sweet sugarcane plants and plenty of paddy fields[xvi]. Let us go in *pradakṣiṇa* and present dance recitals (Kalidos 1999: 232)."

10.1.6. 'kūttaṉ' kōvalaṉ kutaṟṟuval acurarkaḷ cuṟṟam
ēttum naṅkaṭkum amararkkum muṉivarkkum 'iṉpaṉ'
vāytta taṇpaṇai vaḷavayal cūḻtiru mōkūr
āttaṉ tāmarai aṭiaṉṟi maṟṟuilam araṇē

"The dancer-cowboy, *kūttaṉ…iṉpaṉ*[xvii], is bliss for his devotees. He is death to demonical terrorists. The gods and sages extol praise of the ecstasy-giver. Sacred Mōkūr is fertile in water reservoirs, palm trees and fertile paddy fields. Our trustworthy Lord, His lotus-feet is our escort."

10.1.7. maṟṟui lamaraṇ vāṉperum pāḻtaṉi mutalāc
cuṟṟum nīrpaṭaittu ataṉvaḻit tolmuṉi mutalā
muṟṟum tēvarōṭu ulakucey vāṉtiru mōkūr
cuṟṟi nāmvalam ceyyanam tuyarkeṭum kaṭitē

"We have no protection other than Viṣṇu. He created the skies, the cosmic energy, *mūlaprakṛti* (*Īṭu* X, 20), and *nīr* "water" all round. The Lord of sacred Mōkūr created the skies and the cosmic core. He ordains the primeval sage, Brahmā and through him the gods, and the worlds. If we come around the venue in *pradakṣiṇa* our sorrows (*sarvaduḥkha*) vanish quickly."

10.1.8. tuyarke ṭumkaṭitu aṭaintuvantu aṭiyavar to̲lumi̲n

uyarkoḷ cōlaioṇ taṭamaṇi oḷittiru mōkūr

peyarkaḷ āyira muṭaiyaval arakkar pukku a̲luttat

tayara ta̲npe̲r̲r̲a marataka maṇittaṭat ti̲naiyē

"Savants of the Lord come soon and pay homage so that your tribulations are dissolved quickly. Glamorous Mōkūr is set amidst tall groves and ponds plenty in water. Thousands of terrorist demons (of Laṅkā) were crushed down by the dear son of Daśaratha[xviii], a pool of blue gems."

10.1.9. maṇitta ṭattuaṭi malarkkaṇkaḷ pavaḷac cevvāy

aṇikkoḷ nāltaṭam tōḷteyvam acurarai e̲n̲r̲um

tuṇikkum valaraṭ ṭa̲nu̲rai po̲liltiru mōkūr

naṇittu nammuṭai nalaraṇ nāmaṭain ta̲namē

"The Lord's foot-steps are pools of gems. He is a majestic personality graced with flowery eyes, coral lips; decorated athletic shoulders prepared any time (for war[xix]) to eradicate menace of demons. Sacred Mōkūr is set amidst groves, which if we reach is the best venue for our security."

10.1.10. nām aṭainta nal araṇ namakku e̲n̲r̲u nal amarar

tīmai ceyyum val acurarai añcic ce̲n̲r̲u aṭaintāl

kāmarūpam koṇṭu e̲luntu aḷippā̲n tiru mōkūr

namamē navi̲n̲r̲u eṇṇumi̲n ēttumi̲n namarkāḷ

"The perfect garrison reserved for us is the Lord that we have reached. The good-natured gods do seek asylum under the Lord aghast with terrorists committed to genocide. Viṣṇu hastens to destroy the demons in the guise of love-generating Mohinī[xx]. Think of the Lord of sacred Mōkūr; extol his praise."

10.1.11. ēttu mi̲nnamar kāḷe̲n̲r̲u tā̲nkuṭa māṭu

kūttanaikkuru kūrccaṭa kōpa̲nku̲r̲ r̲evalkaḷ

vāytta āyirat tuḷivai vaṇtiru mōkūrkku

ītta pattuivai ēttaval lārkkuiṭar keṭumē

"Our fellow-*bhāgavata*s, you are entreated to extol Praise of the 'Kuṭakkūtta̲n'[xxi] (pot-dancer). These among the 1,000 hymns (i.e., *Tiruvāymo̲li*) are the menial service of Caṭakōpa̲n of Kurukūr. Experts in extolling this ten (hymns[xxii]) on the enchanting sacred Mōkūr are relieved of hardships in life."

Nammā̲lvār extols the praise of Lord Kālamēkam (of the hue of *kālamegha* or *meghaśyāmavarṇa*) of Mōkūr with a request to come down to the earth (*erscheinung* "appearance", *verkörperung* "embodiment" or "symbolization" LHE 2000: 1396) once again, may be the Kalki-*avatāra*, to redeem suffering humanity from the clutches of terror-mongers. Toward this end, the Ā̲lvār finds the Lord located in a picturesque venue among lush green paddy fields, sugarcane plants, palm or coconut trees, groves and ponds, symbolic of harmony with environment. The Ā̲lvārs-12 beginning with Poykai coming down to Tirumaṅkai loved the lively cosmos in which the Lord is habituated in an enchanting, *divyadeśa*. The holy land today is haunted by terrorists all over the world (Garden of Eden: Jerusalem or Bṛndāvana: Ayodhyā turned deserts by way of Bamiyan [Rajarajan 2016b: pl. VIII]). The saints are peacefully slumbering at remote corner of the countryside in Tamilnāḍu (Fig. 2) musing how to reinstitute *dharma* (*Bhagavat Gītā* 4.8). Thank God, terrorism is not seen in this zone of the peace-loving Tamil people (Zaibunnisa 2012: chap. VII, Parthiban 2013: 109)[xxiii].

Bronzes of the Āḻvārs

The bronzes reported in this article find ten standing in a row (Figs. 3-4). They are Poykai, Pūtam, Pēy, Tirumaḻicai, Kulacēkarar, Nam (seated), Periya[var] (cf. 'Periyār' in *Nācciyār Tirumoḻi* 10.10 ['Periyār' *Tirukkuṟaḷ* 892, Kalidos 2017: 126-30]), Toṇṭaraṭippoṭi, Tiruppāṇ, Maturakavi[xxiv] and Tirumaṅkai. Āṇṭāḷ bronze is kept in the Āṇṭāḷ shrine. Jeyapriya-Rajarajan (2015: fig. 1) has published a visual from the Kōḷūr *divyadeśa*, Vaittamāniti Perumāḷ (Lord of deposited wealth, *bhujaṅgaśayana*-Mūrti) temple in which Maturakavi is missing[xxv]. Parthiban-Rajukalidoss (July 2018) during a field visit to the Nantipura-*viṇṇakaram divyadeśa* (*Periya Tirumoḻi* 5.10.1-10) in the Kāviri delta detected a set of stucco images of the Āḻvārs in the first *taḷa* (to the right as one stands facing the monument) frontal elevation of the *gopura* in which he says ten are found. I am informed (Kalidos 2017a) the twelve are present on the southern *gopura* providing access to the inner sacred zone of the Śrīraṅgam temple (see plan in Rajarajan et al. 2017b: fig. 5, earlier published in Auboyer 1994: Plans 1-2).

The iconography of the Āḻvārs is not complicated. All the twelve are listed in the *Śrītattvanidhi* (6.13-22, 28) bringing Maturakavi after Rāmānuja, Vedāntācarya, Naññjīyar and Ramyajāmātṛ-*muṉi*. Āṇṭāḷ is not included. All are uniformly *dvibhuja* posed in *añjalibandha* or *namaskāramudrā* hand-posture. Nammāḻvār's right hand is posing the *cinmudrā*. A *kirīṭamakuṭa* decorates Kulacēkarar being a Cēralātaṉ king. Periyāḻvār, otherwise Viṣṇusiddha/Viṭṭucittaṉ (*Nācciyār Tirumoḻi* 1.10) holds the cymbals in hands. Tiruppāṇ, the *pāṇar* (minstrel) is tuning the *vīṇā*. The images published in this article find ten uniformly *sthānaka* resting their hands in *añjalibandha*. The middle-seated icon of Nammāḻvār poses the right hand in *cinmudrā* (Figs. 3-4). The seated three in lower level are the Ācāryas; Nātamuṉi[xxvi], Śrī Rāmānuja (1017-1137 CE) and Maṇavāḷa-*māmuṉi* (Fig. 5). The images of the Āḻvārs are set following the *guruparampara* tradition, which is chronologically unsettled (Zvelebil 1974: 91).

The images are rich, attired with silk garments, golden ornaments and flower garlands. The priests will not disturb the decoration to help iconographic studies. Therefore, we have published the data found in situ.

CONCLUSION

When Nammāḻvār was busy kitting the garlands for Viṣṇu, '*caṅkat*-Tamiḻmālai'[xxvii] (*Tiruppāvai* 30), viz., the quadruple compared to the *catur-Veda*s, i.e., *Tiruviruttam* [*䁖g*], *Tiruvāciriyam* [*Yajūr*], *Periya Tiruvantāti* [*Atharva*] and *Tiruvāymoḻi* [*Sāma*][xxviii], the later Āḻvārs (Paṭṭarpirāṉ, Kōtai/Āṇṭāḷ and Tirumaṅkai) had not entered the field to contribute their share for the 'Nālāyiram' heritage. Nammāḻvār was popularizing the *divyadeśas* in Pāṇṭināṭu and Malaināṭu (Kēraḷa). Tirumaṅkai, contemporary of Nandivarmaṉ Pallavamalla (731-796 CE, Srinivasan in Meister & Dhaky eds. 1999: 28) comes to the picture during the later 8th and early 9th century CE to acclaim the *divyadeśa*s in Vaṭanāṭu (cf. Rajarajan [in press]: 111-31), Toṇṭaināṭu and Cōḻanāṭu, arranged sequentially in the *Periya Tirumoḻi* (Rajarajan 2013a: 48-55). However, all the Āḻvārs were unanimous to find their Lord in the indigenous habitation of his desired space, *sthala*, amidst an enrapturing abode, *kṣetra*, where nature's bounty is in harmony with spiritual bliss (cf. *kuṭakkūttu* in *Periya Tirumoḻi* 10.1.11 above). The locale may be at a high altitude in the Himālayas (Rajarajan 2016: fig. 9) or seashore Aṉantapuram (Kalidos 2015a: 312-18, pls. chap. 45, 1-4) in the Deep South. Therefore, if Kulacēkara Āḻvār finds the Citrakūṭa (western peak of the Vindhyas) in Tillai-Cittirakūṭam (*Perumāl Tirumoḻi* 10.1-11, Kalidos 1997: 22), it is an intuitive historical far-sight. Tirumaṅkai discovers pepper[xxix] creepers on the Himālayan summit in the *divyadeśa* at Piruti (Joṣimaṭh[a], 246 kms uphill Haridvār[a]), which is the globalization of a regional commodity[xxx] of the *kuṭamalai*, western hills. The Āḻvārs were not only lovers of nature in its real spirit but also wanted to see the world at peace to enjoy "Cosmic Harmony". Āṇṭāḷ in the *Tiruppāvai* (3) prays for *nīṅkātacelvam*, which is devotional bliss[xxxi] or "solace" (cf. Schopenhauer cited in Sathyanathaier 1980: 33-34), Harmony in the Milky Way, and not material wealth, Karl Mark's 'Das Capital'. Therefore, the "Hymns for Cosmic Harmony" (Rajarajan et al. 2017) is apt in this terrorism-bound world; 'Nālāyiram' viewed through the new-millennium mirror. The *Tiruvāymoḻi* is *Hymnen zum Auftauchen* (Hymns for Surfacing). The world is not to be immersed in ignorance[xxxii], "drowning" (Ramanujan 1981) never to reach the surface or "sunk into the divine" (Zvelebil 1974: 91). It is "diving" (Spencer 1970) within minutes reaching the surface (Parthiban & Rajarajan 2018: 1-15); 'kaṟṟuṉaip pūṭṭiyōr kaṭaliṟ pāycciṉum naṟṟuṇaiyāvatu', thrown into the deep ocean, you are surfacing when the Lord's presence is felt in the deep sea (*Tēvāram* 4.11.1). Therefore, Śiva is Jalaśāyī

(*Śivasahasranāma* 579), cf. Śeṣaśāyī ('Talacayaṉam', Sthalaśayana of Kaṭalmallai [*Periya Tirumoḻi* 2.5.1-10, 2.6.1-10, Jeyapriya 2018: 13-19] or 'Calacayaṉam', Jalaśayana of Ciṟupuliyūr [*Periya Tirumoḻi* 7.9.1-10])[xxxiii]. Again, *emperumāṉ*-Nandakopālaṉ (*Tiruppāvai* 17), our Lord Nandagopāla rewards the devotees with *amparam* "garment", *taṇṇīr* "water", *cōṟu* "food" and *aṟam* "*dharma*"[xxxiv] (Rajarajan et al. 2017b: 91-92). *Aṟam* (*tarumam* in Pāratiyār [cf. Zvelebil 1974: 162], *dharma* "righteousness", "justice to all") is the keyword in Viṣṇuism (Rajarajan 2017a: 150, 1334).

The presiding God of Mōkūr (enrapturing city) is given the meaningful name, Kālamēkam (*Tiruvāymoḻi* 10.1.1 above) because he is the Kārmēkam[xxxv] (or *kārvāṉam* "rainy cloud or black cloud" *Periya Tirumoḻi* 8.1.4)) or Karumēkam (contextually 'inseminating vapours') that pours torrentially to fertilize the soil (cf. *āḻimaḻaik*-Kaṇṇā in *Tiruppāvai* 4, Rajarajan et al. 2017b: 80). The cosmos blooms with activity when the Lord (Messiah in Hebrew Scriptures) appears on earth (*avatāra*, *erscheinung* of Jan Gonda [cf. 1954] cited in Rajarajan et al. 2017a: 237). The terror-sponsored sufferings of humanity vanish, e.g., Hiraṇya vs. Nṛsiṃha, Rāvaṇa vs. Rāma ('eṅkalmēl cāpam iḻintēlōrem pāvāy' *Tiruppāvai* 22); we enter a new saga of renaissance relieved from dark ages.

Maturai is a typical tropical zone depending on "rains" for survival. Prolonged famines and emigration of people to distant lands are on record during the historical past. The Hindus dogmatically believe these mishap endings are due to bad government[xxxvi] resulting in wrong movement of the celestial bodies (see *Maṇimēkalai* 7.8-11). During time of troubles, the Lord employs his *nigrahacakra*, cf. Cakkarattāḻvār chapel *(*Plan*)* in the temple[xxxvii], to annihilate terrorism. Now, the rains shower, the *dharmacakra* facilitating return of the native, e.g. the Jews in Palestine (July 2019). This is the new era gift for the cosmic mass. Under the endearing care of Govardhana-Kṛṣṇa[xxxviii], presenting Kuṭakkūttu (dance of pots-full bliss) man is sheltered against storms of terror, and survives enjoying harmless monsoons, the Rāma-*rājya* or as Bernard Shah would say "whatever best administered is best".

Attachment

Note on Paraṅkuṉṟu

The *Periya Tirumoḻi* (7.1.6) makes a note of Paraṅkuṉṟu/Paraṅkuṉṟam, literally meaning "otherworldly hill" in a hymn bearing on Mūḻikkaḷam, the Malaināṭu-*divyadeśa* (Kēraḷa). Periyavāccāṉ Piḷḷai (c. 1167-1262 CE, cited in Rajarajan et al. 2017a: 1089) identifies the venue with Piruti in the Himālayan cluster (see note 30). The term, *param* is redundant in the 'Nālāyiram' (e.g., *Tirumālai* 28; Periyāḻvār *Tirumoḻi* 3.4.10, 3.5.11, 4.5.1; *Tiruviruttam* 61; *Tiruvāymoḻi* 2.3.9, 2.6.10, 3.1.3, 3.2.6, 3.6.3, 6, 3.7.1-2, 7, 6.2.4, 9.6.1, 10.3.2) meaning "eternal"; Parameśvara is the "Eternal Viṣṇu" in Vaiṣṇava lore (cf. 'Īcaṉ', *Viṣṇusahasranāma* 34, 74, 'Īśvaraḥ' *Śivasahasranāma* 369), Sarveśvaraḥ (*Viṣṇusahasranāma* 96), "desire" (*Īṭu* IX, 171), "fulfillment" (Hardy 2014: 316); cf. 'Paramayōki' (*Tēvāram* 1.119.3, 6.45.2), 'Paramēṭṭi' (ibidem 2.62.1), 'Paramavaṉ' (ibidem 4.36.4)**.** *Param* in Vaiṣṇava tradition is Paramapada, the heaven (108th *divyadeśa*) for *jīvātma*s to live eternally in peace serving the Lord.

Paraṅkuṉṟam was a base of Cevvēḷ/Murukaṉ cult (*Paripāṭal* 17.39); other names being Neṭuṅkuṉṟam[xxxix] (ibidem 17.51) and Kuṉṟu (ibidem 18.5, 15. 27, 45). Tirupparaṅkuṉṟam to the southwest of Maturai was not the base of Murukaṉ cult during the Caṅkam and post-Caṅkam periods (cf. Clothey 1978, Kalidos 1991: fig. 1, Rajarajan 2015-16: fig. 20). We find rock-cut images of Ādimūrti-Viṣṇu, Śiva-Liṅga pasted with Somāskanda[xl] on back wall, Gajalakṣmī, Bhuvaneśvarī (locally called Aṉṉapūraṇi) and Jyeṣṭhadevī in tiny *garbhagṛha*s (Rajarajan 1991: figs. 1-6). The Paraṅkuṉṟam of *Paripāṭal* fame seems to be Āṉaimalai; cf. Clothey (1978), Zvelebil (1991) (see note 4) and Kalidos (1991). Neṭuṅkuṉṟam[xli] may apply to both Paraṅkuṉṟam and Āṉaimalai. Āṉaimali is not only "high" but also "long" running to about 5-8 kms (at the eastern end of the outcrop Ariṭṭāpaṭṭi appears).

What I want to emphasize is the Paraṅkuṉṟu noted in *Periya Tirumoḻi* is likely to be Tirupparaṅkuṉṟam where the rock-cut chamber for Viṣṇu-Ādimūrti (Kalidos 1991: fig. 1) is found. This rock-cut cave temple is on the model of the Tiruccirappaḷḷi lower cave assigned to the Pāṇḍyas by K.R. Srinivasan (1972). In both cases, cellae for Śiva and Viṣṇu face each other; Somāskandamūrti is missing in Tiruccirāppaḷḷi (Kalidos 2006: IV, II, fig. 3, p. 192). Viṣṇu is *āsana* (seated) in Tirupparaṅkuṉṟam and *sthānaka* (standing) in Tiruccirāppaḷḷi (Kalidos 2006: I, LXXXII.1-2). The Tirupparaṅkuṉṟam *mūlabera*s are beyond the reach of cameras but we have observed the images in close range from about ten meters distance, which is beyond the view of non-Hindus. Paraṅkuṉṟam and Āṉaimalai were not canonified when the Āḻvārs composed hymns; we may give the example of Ciṅkaperumāḷkōyil (Srinivasan 1964: 110-12) in the Pallava zone.

It may be questioned whether it is fair to identify a *divyadeśa* based on a single reference. There are several such examples. For example, Kalvaṉūr within the Kāmākṣī Ammaṉ temple in Kāñci is with reference to 'Kalvā' ("Thou, the Thief" in *Tiruneṭuntāṇṭakam* 8)[xlii]. It is an invocation to Kṛṣṇa, the mischief player. In fact, *kalvā* (*Tiruneṭuntāṇṭakam* 23, *Periya Tirumoḻi* 7.1.4, 7.2.1) and *kalvaṉ* are profuse in literature (*Paripāṭal* 20.36, *Tiruccantaviruttam* 26; *Tirumālai* 16; *Tiruviruttam* 22, 91; *Tiruvāymoḻi* 1.5.1, 2.2.10, 3.8.9, 5.1.3-4, 6.1.11, 6.6.3, 8.8.2; *Periya Tirumoḻi* 3.7.1, 7.3.8, 10.7.3; for concordances see Rajarajan et al. 2017a).

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i Wealth, distinction, eminence, beauty, brilliance, holiness, sacredness and so on (*Tamil Lexicon* III, 1896, Rajarajan et al. 2017a, 1388-89), reverend, blessed excellent (Liebert 1983, 299). The *Paripāṭal-tiraṭṭu* (1.5, 63) notifies two unidentified early venues (pre-Āḻvār time*) of Viṣṇuism within the Greater Maturai of the then time, Iruntaiyūr** and Kuḷavāy (*kuḷam* "water tank", *vāy* "mouth"), which may be hazily Mōkūr (*irukkumiṭam*, resident place) and Āṉaimalai (nearby a *teppakkuḷam* is found).

* The *Perumpāṇāṟṟuppaṭai* (*ll.* 371392) seems to record Veḥkā. The *Cilappatikāram* (11.39-40, 41-51, 91; 26.62, 30.51) registers Araṅkam, Vēṅkaṭam, Tirumālkuṉṟam/Māliruñcōlai (see Paraṅkuṉṟam in 'Attachment'), and Āṭakamātam/Aṉantapuram (Subrahmanian 1990, 76, Jeyapriya 2012, 64).

** Iṭaventai-*divyadeśa* (*iṭam-entai* "the venue, my Lord") in Toṇṭaināṭu (*Periya Tirumoḻi* 2.7.1-10) zone (close to *kaṭal*-Mallai) may be compared; cf. the *Viṣṇusahasranāma*-16 epithet Kṣetrajñaḥ (*sarvakṣetreṣu bhārata kṣetrakṣetrajñayor jñānaṃ* "Bhārata, among all the *kṣetra*s, I am *kṣetra* of the *kṣetra*s, it is wisdom" (*Bhagavat Gītā* 13.2, Rajarajan & Jeyapriya 2018, 112).

ii If the term could be derived from *mōkam* ("fainting, fascination, love" *Tamil Lexicon* VI, 3380) or *moha* ("fainting, swoon, amazement, infatuation" Monier-Williams 2005, 836, Apte 2012, 449), cf. *mōttal* "smell", *mōkkam*/*mokṣa* "liberation (of the soul)".

iii *yāṉai* (*Tamil Lexicon* VI, 3405), folk *āṉai* (*Tiruvāymoḻi* 3.9.1, Rajarajan et al. 2017a, 77).

iv This granite hill is associated with the myth of Ñāṉacampantar's tirade (Tamil *vātu* "disputation") with the Jains; the demon-elephant sent by the Jains converted a hill (see *Tiruviḷaiyāṭaṟ Purāṇam* cited in Rajarajan & Jeyapriya 2013, 41). Two rock-cut temples of the Early Pāṇḍyas (550-850 CE) housed with cult images of Murukaṉ-Vaḷḷi (Kalidos 2006, IV, I, pl. II.2; IV, II, pl. XLV.1) and Yoga-Nṛsiṃha (Rajarajan 2006, II, Plan 1, pls. 138-139) are found at the foothills of the *mastaka*. Fred Clothey (1978) would consider Āṉaimalai the Paraṅkuṉṟam of Caṅkam lore (*Paripāṭal* 19. 5, 23, 102, cf. Zvelebil 1991, 85, L'Hernault 1978, Haripriya-Rangarajan 2010). An inscription (ARE 1906, no. 453, Mahalingam 1989, 103-104) in the Nṛsiṃha rock-cut temple, dated in 770 CE, refers to Maturakavi, identified with Maturakavi *brāhmaṇa*-Āḻvār, author of *Kaṇṇinuṇciṟuttāmpu* in praise of *veḷḷāḷa*-Nammāḻvār Maturakavi was an admirer and contemporary of Caṭakōpaṉ (cf. *Periya Tirumoḻi* 10.1.11 above), the Nammāḻvārs given name (*Tiruvāymoḻi* 1.1.11, see Rajarajan et al. 2017a, 224-25).

v For a synoptic account of the *paṉṉirutirumuṟai* see Zvelebil (1974, 91-92), Rajarajan, Parthiban and Kalidos (2017b, 52-53).

vi See illustrations in Rajarajan (2006, II, plan II, pls. 8, 72, 114, 324-325, 228-229, 242, 334-335).

vii The Marutu Brothers were liquidated in 1801 (Rajayyan 1971), and their successors rooted out. They are associated with the Svarṇa-Kālīśvara temple in Civakaṅkai (Rajarajan 2006, 54-56, plan V).

viii To begin with, we had employed capital letters at the beginning of a line or in case of proper names (Rajarajan 2015, 142-45, 2016, 83). On advice of the Editor of *Zeitschrift für Indologie und Südasienstudien* we brought all terms to small letters (Rajarajan 2016a).

[ix] Mōkūr is notified in the eleven hymns of Nammāḻvār besides a passing reference in the *Ciṟiya Tirumaṭal* (couplet 74) of Tirumaṅkai Āḻvār, cīrārum māliruñcōlai tirumōkūr "the abode of nature's *bonté*, Māliruñcōlai and sacred Mōkūr".

[x] The basic source for one's living (tenants depending on barons during Middle Ages, wife dependent on husband according to the *dharmaśāstra*s); "refuge, heaven, final beatitude, absorption into the deity" (TL II, 711-12).

[xi] The region today is dominated by the *kaḷḷaṉ* folk, an *agrahāra* is found round the temple, the temple is visited by the elite and folk; a small hamlet some forty years ago, it has lost its original identity today due to environmental pollution.

[xii] eṟṟaikkum ēḻēḻ piṟavikkum "on all days and the seven-plus-seven births" (*Tiruppāvai* 29); 'īrēḻ' "two sevens" (*Periya Tirumoḻi* 10.7.14, Rajarajan et al. 2017a, 435-36).

[xiii] See Rajarajan (2018, chap. II) on *Viṣṇusahasranāma*; this work is a compendium of the *sahasranāma* and *aṣṭottaramsata* on Devī, Viṣṇu and Śiva viewed through "concordance and reciprocation".

[xiv] The *brāhmaṇa* priests of the temple noted in inscriptions were to provide food offerings during the marriage festival, *kalyāṇotsava* (ARE 1918, no. 334; Mahalingam 1989, 132). The venue was located in the Kuntavai-*caturvedimaṅgalam*; other records note Vīranārāyaṇa-*caturvedimaṅgalam* (ARE 1918, no. 332) and Kumārapavitra-*caturvedimaṅgalam* and the presiding God named Paramasvāmi "Eternal Master" (ARE 1918, no. 331).

[xv] The original Mūrti at Mōkūr was *śayana*, later converted to *sthānaka* (cf. *Periya Tirumoḻi* 10.1.1 above). On the southeast corner of the present temple, a chapel for *śayana*-Mūrti is present (Plan). The same was the case with Meyyam where the early rock-cut Śeṣaśāyī image and later additions (Rajarajan 2012, fig. 4) are living testimony (Rajarajan 2006, 44-46, 2012, 78-80, 81-82, figs. 4, 6).

[xvi] Today the landscape recalls minding Oliver Goldsmith's 'The Deserted Village', "a bold peasantry, their country's pride, / When once destroyed, can never be supplied".

[xvii] These two terms if linked (*kūttan-iṉpaṉ*, *iṉpakkūttaṉ*) suggest Viṣṇu is the Dancer of Bliss (cf. Kalidos 1999); cf. *āṉantak-kūttaṉ* ('Vārttai' 3, *Tiruvācakam* of Māṇikkavācakar).

[xviii] *Īṭu* (X, 22) citing the *Rāmāyaṇa* says Rāma was the *vaṭavāgni* for Rāvaṇa.

[xix] The contemporary stalemate in global state of affairs would reiterate the dictum of UNO, "Let us fight for peace". Unless the allied nations (e.g., USA, Russia, UK, France et alii) unite another major catastrophe (e.g., World War II) is griming as a volcano. The terrorist-axis should be broken if we want peace in *janmabhūmi*s of Jesus of Nazareth, Kṛṣṇa and Rāma. Yesterday (26, July 2018) the newspaper announced the Promised Land for the Jews is in the offing.

[xx] He (*aḻakiyāṉ** "He-beauty" *Tiruvāymoḻi* 6.2.6, *Periya Tirumoḻi* 9.2.10 cited from Rajarajan et al. 27a, 41) offers the *amṛta*, metaphor for Universal Pax, to the peacemakers.

***** 'āṇiṉōṭu peṇṇumāki allavōṭu nallavaiyāy' (man, woman and the excelsior neither of these two *Tiruccantaviruttam* 26), cf. 'āṇō aliyō arivaiyo' "man, woman-man or maiden" (*Poṉṉucal* 5 in *Tiruvācakam*).

[xxi] The hymns bearing on *divyadeśa*s in Pāṇṭināṭu amply demonstrate the Dance of Viṣṇu (Rajarajan 2012, 95), a theme exemplified in Kalidos (1999, figs. 1-3, 6, 9-10).

[xxii] The hymns are Kāmadhenu (*Īṭu* X, 27 citing the *Rāmāyaṇa*).

[xxiii] People accustomed to live peacefully in the lowlands of Tamilnāḍu do not love the burning highland, Delhi, the target of terrorists. This was the main reason why I left the Jawaharlal Nehru University. All the time strikes, students walking out of classrooms, bona fide Deans suspended and closed doors of the Schools and, the good administration refusing living space for a dejected

professor from the south. How long could one survive, keeping his family 2500 kms away in a jeopardized avenue?

[xxiv] Strictly speaking, the *Kaṇṇinuṇciṟuttāmpu* could not be brought under the 'Nālāyiram' because this work is not on Viṣṇu (see note 4 above). This may be the reason why some scholars are hesitant to bring Maturakavi under the twelve. He is solid in *Guruparampara* (G) literature, e.g., the *Āṟāyirappaṭi*-G. The justification may be *guru* is Viṣṇu; *guru*-Brahmā *guru*-Viṣṇu *guru*-Maheśvaraḥ.

[xxv] This portrait includes forty-four dignitaries including the Āḻvārs (Row I), Ācāryas (Row II) and Bhāgavatas (Row III) in three vertical layers (Jeyapriya 2015, fig. 1).

[xxvi] Nātamuṉi was the compiler of the 4000-*pirapantam* ("sometime in the 10th century" Zvelebil 1974, 91). He is as important in Tamil Vaiṣṇava hagiology as is Nampi Āṇṭār Nampi (1080-1100 CE ibidem) for the Śaiva canon.

[xxvii] Kamil Veith Zvelebil (1987) has told the meaning of the term, 'tamil', complimented in my article (Rajarajan 2017).

[xxviii] Nammāḻvār retold the signification of the *veda*s in Tamil, 'aṟumaṟaiyiṉ poruḷ…Tamiḻ pāṭiṉāṉ' (*Kaṇṇinuṇciṟuttāmpu* 8).

The works of Tirumaṅkai are the six *vedāṅga*s: *kalpa*: *Periya Tirumoḻi*, *śikṣa*: *Tirukkuṟuntāṇṭakam*, *chandas*: *Tiruneṭuntāṇṭakam*, *nirukta*: *Tiruvelukuṟṟirukkai*, *vyākaraṇa*: *Ciṟiya Tirumaṭal* and *jyotiṣa*: *Periya Tirumaṭal*.

[xxix] *kārkoḷ vēṅkaikaḷ kaṉavarai taḻuviya kari vaḷat koṭi tuṉṉip* "pepper creepers are embracing the soaring *kino* trees that rise up to the skies" (*Periya Tirumoḻi* 1.2.7).

The 'Old Testament' of the 'Holy Bible' (Kings James Version 10, vv. 2, 10, 22) reports a ship arriving from Thar'shish (the Tamils?) to the kingdom of King Solomon (c. 1000 BCE) laden with ivory, apes, peacocks and spices (cited in Kalidos 1999, 151). When exported to Ethiopia, Greece and Rome pepper is a global commercial product. Pepper creepers on the peak of the snowy Himālayas are a wonder!

Archeologists in Naples and Hungary have reported an ivory comb portraying a peeress in toilet (Shastri ed. 1999, II, pl. XLVII a-b) and richly ornamented royal bride or Lakṣmī (Dhavalikar 2004, pl. pl. LIII a-b), dated during the Sātavāhana period (down to 200 CE), contemporaneous with the Tamil Caṅkam.

[xxx] Tirumaṅkai notes peacocks (*Periya Tirumoḻi* 1.2.1), bamboo (ibidem 1.2.5), and *mātavi* ([creepers of the common delight] ibidem 1.2.6) on the Himālayan venue, Piruti. The poet is exhilarated to add, "mountain-like mammoths pluck the tender shoots of bamboo; dip in honey and mix with honeycomb for offering to juvenile mates" (PTM 1.2.5); cf. Śiva and Umā dallying as male and female elephants 'mātarp piṟaik kaṇṇiyāṉai malaiyāṉ makaḷ…kātaṉ maṭappiṭi yōṭuṅ kaḷiṟu varuvaṉa kaṇṭēṉ…' (*Tēvāram* 4.3.1).

[xxxi] Piḷḷai Lokācārya (1104-1311 CE, Fig. 5) in his commentary on the *Tiruppāvai* adds the "*cētana*'s* (bhāgavata) *punya* (good deeds) reverts *pāpa* (evil deeds) leading to bliss" (p. 64). The commentaries of Periyavāccaṉ Piḷḷai and other Ācāryas were inaccessible for our research. We (Rajarajan and Parthiban) have obtained these materials copied (running to several thousand pages) from www.srivaishnavasri.com. The University of Madras has published Nam Pīḷḷai's *Īṭu*.

* *cētana* "animate, alive, sentient", *cetanaḥ* "wisdom", thinking soul (Apte 2012, 211); baby-monkey, *vaṭakalai*) or bay-cat, *teṉkalai*, the Mother-Śeṣi is Viṣṇu (Rajarajan et al. 2017a, 258).

[xxxii] Then said Jesus, "Father, forgive them; for they know not what they do" ('The Holy Bible', St Luke 23.34).

[xxxiii] 'Jalaśāyī' is the subject matter for a doctoral thesis (Vairakkodi 2017, profusely citing Rajarajan et al. 2017). For more elucidation on the theme, see Shastri (1994, 111-120) and Smith (1996, 19-32).

[xxxiv] 'amparam-taṇṇīr-cōru-aṟam' is *vastra-tīrtha-aṉṉam-dāna*-[*dharma*] in Piḷḷai Lokācārya's *vyākhyānaṃ* "lecture" (p. 165). The Ācārya (p. 166) adds these are rich as the Meru, *puṣkala* ("copious", abundant, an epithet of Meru [Apte 2012, 343]). Viṣṇu is gracious endowed with *kamalak-kaṇ* (*Tiruvāymoḻi* 10.1.1), *puṣkarākṣaḥ* (*Viṣṇusahasranāma* 40, Rajarajan et al. 2017, 498).

[xxxv] Kārvāṉam is a *divyadeśa* (*Tiruneṭuntāṇṭakam* 8) within the Ulakaḷanta Perumāḷ temple, Kāñci (Rajarajan 2007, 30); Mūrti, Kārvāṉar (*sthānaka* west facing). *kārvāṉam* "rainy cloud" (PTM 8.1.4), an anology for the Lord's mien, a personal name for Vaiṣṇavas. For terms prefixed with *kār* (e.g., *kārmukil* in *Tiruvāymoḻi* [2.3.7, 9.6.3] see Rajarajan et al. 2017a, 532-546).

[xxxvi] TV and newspaper reports (*Tiṉamalar* 17, July 2018, p. 1) announce a chief minister sponsored company has illogically appropriated twelve billion and 100 kg gold, and another deputy chief had accumulated a few more billions. The annual budget of Tamilnadu for 2016-17 was 1500 billion. The total number ministers are thirty-three.

[xxxvii] L'Hernault (1990), and Giuliano (2001) and Jeyapriya-Rajarajan (2003,291-302) have notified the *āyudhapuruṣa*s and the ancient temples in the Tamil country.

[xxxviii] 'kōvartaṉam eṉṉum koṟṟak kuṭai' "that royal umbrella called Govardhana (Periyāḻvār *Tirumoḻi* 3.5.1-11, cf. Kalidos 1999, 234, Rajarajan et al. 2017b, fig. 68).

[xxxix] Neṭiyōṉkuṉṟam in *Cilappatikāram* (8.1) is Vēṅkaṭam ([Tirupati-Tirumala] Cilampu. 11.41). The *Paripāṭal-tiraṭṭu* (1.5, 63) refers to two unidentified *divyadeśa*s, i.e., Iruntaiyūr and Kuḷavāy, *amarnta* (seated) Mūrtis in both. It is a matter for speculation whether these two are Paraṅkuṉṟam (seated Ādimūrti) and Āṉaimalai (seated Nṛsiṃha), the latter on the bank of a *teppakkuḷam* (Fig. 6; cf. Rajarajan 2016, figs. 2-5).

[xl] Somāskanda is a typical Pallava idiom, an example in the Pāṇḍyan zone is Tirupparaṅkuṉṟam, again rarely reported in Kāśī-Viśvanātha temple, Paṭṭadakkal and *antarāḷa* of the monolithic Kailāsa, Ellora (Kalidos 1997a, 318-22, pl. 7).

[xli] Note 'Neṭuñceḻiyaṉ' in *Cilappatikāram* 'Kātai' 23, 'Kaṭṭurai' 18 and 'Neṭuñcēralātaṉ' in *Patiṟṟuppattu* Ten II, Marr 1985, 324], *kuṟumai-neṭumai* "short/dwarf [Kuṟaḷ, Vāmana], tall [Neṭiyōṉ, Trivikrama]" *Tiruvāymoḻi* 6.3.10; *neṭu* "lofty, length" [*Tamil Lexicon* IV, 2336-37], "high, tall" or long, chain-like). The "long chain-like hills" is Tirumāliruñcōlai, *nīṇṭa-malai* (Periyāḻvār *Tirumoḻi* 4.3.5, cf. Rajarajan 2012, 70-71).

[xlii] The cited hymn notes other *divyadeśa*s of Kāñci such as Nīrakam, Nilāttiṅkaḷtuṇṭam, Kacci, Ūrakam, Veḥkā, Kārakam, and Kārvāṉam; the *bhāgavata*'s mind, *uḷḷam* or *neñcu*, is the cherished *divyadeśa*.

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Figures

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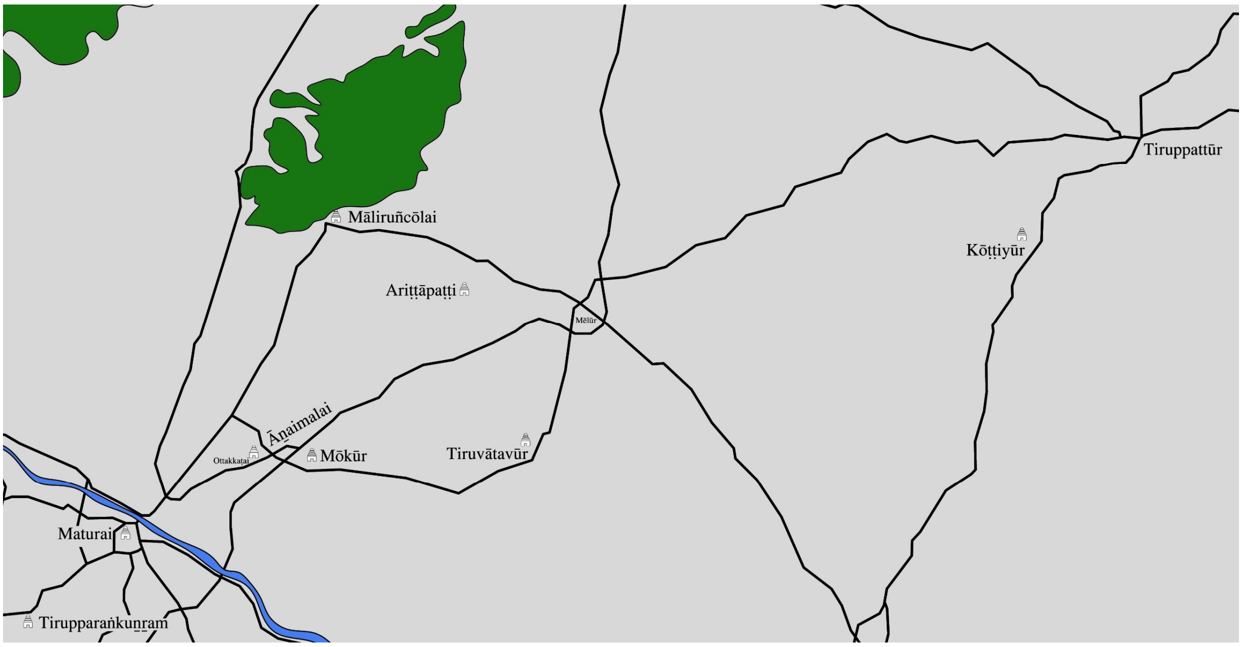
Vol.40-Issue.89-March, 2020



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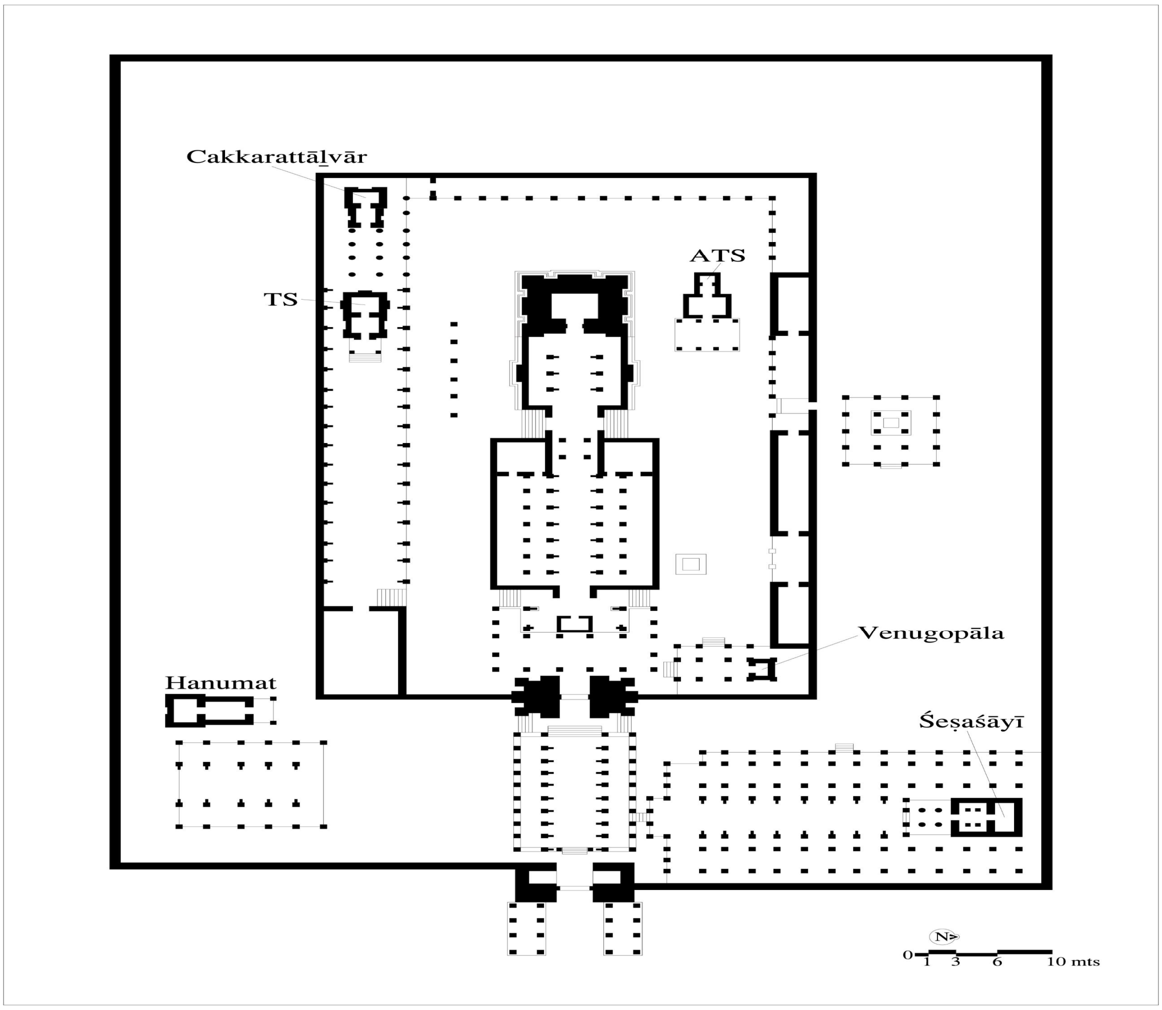

Plan: Kālamēkap Perumāḷ Temple, Tirumōkūr

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1. General view and detail of Āṉaimalai

2. Setting of Mōkūr

3. Āḻvārs: (left to right) Poykai, Pūtam, Pēy, Tirumaḻicai, Kulacēkarar and Nam (seated), Mōkūr

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

4. (left to right) Maturakavi, Periyaḻvār, Toṇṭaraṭippoṭi, Tiruppāṇ, and Tirumaṅkai, Mōkūr

5. Ācāryas: Nātamuṉi, Śrī Rāmānuja (1017-1137 CE) and Maṇavāḷa-*māmuṉi*, Mōkūr

6. Āṉaimalai, temple for Nṛsiṃha on bank of a *teppakkuḷam*

सुशासन के लिए न्यू मीडिया का उपयोग: संभावनाए और चुनौतियां

डॉ. नावेद जमाल, संजियो कुमार सिंह और अयूब सालेह
सह प्राध्यापक, और शोध छात्रों, राजनीति विज्ञान विभाग, जामिया मिलिया इस्लामिया विश्वविद्यालय, जामिया नगर, नई दिल्ली

न्यू मीडिया का उदय सुशासन के लिए नई संभावनाए लेकर आया है क्योकि इसके माधयम से पहली बार दोहरा संवाद कायम हो पाया है। इंटरनेट और फ़ोन की व्यापक पहुंच ने लोगो को सुशासन से जोड़ने में एक बड़ी मदद की है। आधुनिक सरकारों के साथ-साथ सत्ता की औपचारिक संरचनाओं के बाहर के अभिकर्ताओं के लिए भी अनेक अवसर सामने आए हैं कि वे सुशासन के लिए किए गए प्रयासों में जनता को जोड़ पाए परन्तु इसने निजता के खतरों सहित कई दुविधाएं भी कड़ी कर दी है।

सुशासन और मीडिया

सुशासन एक राष्ट्र पर अधिकार के पारंपरिक विचार के विपरीत नागरिकों के प्रति शासन के उत्तरदायित्व की धारणा है। यह लोकप्रिय सहमति से चलने वाली ऐसी वैध सरकार की बात करती है जो नागरिकों के शासन में भागीदारी और अपने नागरिकों के कल्याण पर आधारित होती है[1]।

सुशासन को बढ़ावा देने में मीडिया की भूमिका है। मीडिया सुशासन के सभी पहलुओं को एक मजबूत और स्वतंत्र मध्यस्थता द्वारा स्थापित करने में मदद कर सकता है। मीडिया सरकार की गतिविधियों को सार्वजनिक कर नागरिकों को विभिन्न चर्चों में शामिल करता है तथा सरकारों पर सुशासन के लिए दबाव बनता है। इस प्रकार, यदि कोई सरकार सुशासन के लिए गंभीर है तो उसे मीडिया के स्वतंत्र कामकाज की रक्षा करनी चाहिए[2] फिर चाहे वह पारम्परिक मीडिया हो या न्यू मीडिया।

न्यू मीडिया

न्यू मीडिया एक ऐसा डिजिटल मीडिया उत्पाद है जो दोहरा संवाद स्थापित करता है। इसके दो मूलभूत विशेषताएं है जो इसे पूर्ववर्ती मीडिया रूपों से अलग करती है - पहली यह कि यह इंटरनेट का योग करते हुए मल्टीमीडिया प्लेटफार्मों के एकीकरण के माध्यम से काम करता है और दूसरा इसकी अंतःक्रियाशीलता है हो इसे भविष्य की मीडिया के रूप में स्थापित करती है[3]।

इंटरनेट-सक्षम प्रौद्योगिकयां जैसे वेबसाइट, वीडियो-ऑडियो स्ट्रीमिंग, चैट रूम, विभिन्न सोशल नेटवर्किंग और ऑनलाइन सामुदायिक प्लेटफॉर्म, आभासी वास्तविकता वातावरण, मोबाइल फोन प्रौद्योगिकी, इंटरनेट टेलीफोनी इत्यादि इसके अंतर्गत आते हैं।

दुनिया भर में संचार परिदृश्य में तेजी से बदलाव आ रहा है। नई प्रौद्योगिकियों और परिष्कृत उपकरणों के आगमन ने न सिर्फ सूचना प्रवाह की प्रक्रिया को गति प्रदान की है बल्कि संचार की पुरानी सभी अवधारणाओं को बदल कर रख दिया है। तकनीकी प्रगति के साथ- मास मीडिया प्रारूप और सामग्री दोनों के संदर्भ में भी बहुत कुछ बदल गया है[4]। इंटरनेट सक्षम संचार प्लेटफार्म के परिणाम स्वरूप मीडिया तकनीकिओं के अभिसरण के माध्यम से नए मीडिया का जो उभर हुआ है उसने, लोकतंत्र, राष्ट्र-राज्य, नागरिकता, और सुशासन की कई पुरानी परिभाषों को कम से काम वर्चुअल स्तर पर बदल दिए है।

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[1] यूनेस्को.2005.*मीडिया एंड गुड गवर्नेंस.*पेरिस, यूनेस्को

[2] वही.

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[4] नबी, रोबिन एल; मैरी बेथ ओलिवर;संपा. 2009.*द सेज हैंडबुक ऑफ़ प्रोसेसेज एंड इफेक्ट,* थाउजेंड ओक्स, कैलिफ़ोर्निया, सेज पब्लिकेशन.

सुशासन के लिए न्यू मीडिया के उपयोग की संभावनाए

दुनिया भर में, विभिन्न सरकारों द्वारा सुशासन के उद्देश्य से न्यू मीडिया के उपयोग की बहुत संभावनाएं हैं, लेकिन अधिकांश संदर्भों में इसे अभी तक मूर्तरूप नहीं दिए जा सका है[1]। कई सरकारें ई-सरकारी रणनीतियों का उपयोग कर रही हैं और ऑनलाइन चैनलों के माध्यम से जानकारी प्रसारित कर रही हैं, लेकिन इसके दोहरे संवाद की विशेषता का फायदा उठाते हुए नागरिक प्रतिक्रिया की मांग नहीं कर रही हैं। जहां दो-तरफा चैनल उपलब्ध हैं, यह बहुत है कि नागरिक प्रतिक्रिया पर कार्य किया जाना चाहिए। नागरिक प्रतिक्रिया लेने का सबसे बड़ा फायदा यह होता है की सरकार की नीतियों और योजनाओं में जो भी कमी रह जाती है उसे उनके क्रियान्वयन से पहले ही दूर किआ जा सकता है साथ इस माध्यम से योजनाओं और नीतिओं के सफलता की दर भी बढ़ जाती है[2]। नागरिक प्रतिक्रियाओं के माध्यम से कानून के पालन की संभावना भी बढ़ाई जा सकती है। दूसरी तरफ, आज दुनिया भर में यह भी बात की जा रही है की सोशल मीडिया के द्वारा सरकारी तंत्रों और संगठनों में पारदर्शिता और जवाबदेही लाई जा सकती है लेकिन इसके कम सबूत हैं कि बड़े स्तर पर न्यू मीडिया के माधयम से पारदर्शिता और जवाबदेही जैसे सुधार वास्तव में हुए है। वास्तव में, इंटरनेट और सोशल मीडिया द्वारा पारदर्शिता, जवाबदेही और सुशासन लाना सरकारों की इच्छा-शक्ति पर निर्भर करता है साथ ही इस पर भी की किसी देश की नौकरशाही व्यवस्था किस हद तक ऐसे काम को अपने हाथों में लेना चाहती है[3] क्योकि अक्सर ऐसा देखा गया है की सरकारें और नौकरशाही नागरिक तिक्रियाए लेने और उस पर गंभीरता से काम करने में उत्साह नहीं दिखा पाती है। हालांकि इसका उपयोग जब भी किआ गया है सरकारी कार्यो की उत्पादकता बढ़ी है और इसके बहुत से उदहरण छिट-पुट मौजूद है जैसे बहुत से देशों में आपदाओं के समय, भारत में विदेश मंत्रालय और रेल मंत्रालय जैसे उदहारण। वस्तुतः सोशल मीडिया का उपयोग कर निम्नलिखित तरीकों से सु-शासन के लक्ष्य की प्राप्ति की जा सकती है -

राजनीतिक भागीदारी बढाकरः भगीदारी सुशासन के लिए दो तरह से बड़ी महत्वपूर्ण है। पहला, निर्णय लेने की प्रक्रिया में नागरिकों द्वारा अधिक भागीदारी से पारदर्शिता को बढ़ावा मिलता है और साथ ही यह सुनिश्चित करने में मदद मिल सकती है कि राजनीतिक निर्णय उनके द्वारा प्रभावित लोगों की आवश्यकताओं के अनुरूप हैं या नहीं। दूसरा, लोकतांत्रिक वैधता के लिए अधिक भागीदारी महत्वपूर्ण है, यह सुनिश्चित करता है कि नागरिक स्वयं को अपने शासन तंत्र का अंग माने और सुशासन के प्रयासों को समर्थन दे[4]। पहली बार न्यू मीडिया ने ऐसा मंच प्रदान किआ है जिसके माध्यम से इच्छुक सरकारें राजनीतिक भागीदारी बढ़ाने के लक्ष्य को व्यवस्थित चैनल के माध्यम से प्राप्त कर सकती हैं। हालां कि सरकारों ने कुछ नीतियों पर टिप्पणी या परिवर्तन के लिए, कुछ अपराधों पर रिपोर्ट करने जैसे जैसी कुछ सुविधाए दी है परन्तु बड़े पैमाने पर यह इंटरनेट उपयोगकर्ताओं के एक छोटे से अभिजात वर्ग तक ही सीमित है और सरकारी वेबसाइटें लोकप्रिय नहीं हैं।

जयादा से जयादा सेवाओं से सम्बंधित शिकायतों की ई-फाइलिंग और निवारण संभव बना करः अगर सरकारों की इच्छा शक्ति हो तो सभी मंत्रालयों और विभागों की समस्त शिकायतों को न्यू मीडिया के माधयम से फाइल करना और उसका त्वरित निवारण संभव बनाया जा सकता है। ऐसा करने से न सिर्फ सरकार और जनता के बीच संवादात्मक संबंधों में वृद्धि होगी बल्कि लोगों की समस्याओं में कमी आने से और लोगों की नज़रों में वैधता की वृद्धि से कानून पालन की दर में वृद्धि होगी तथा आने वाले समय में नौकरशाही पर बोझ भी काम होगा।

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[1] द वर्ल्ड बैंक.*पीपल, स्पेस एंड डेलिबरेसन, सोशल मीडिया फॉर गुड गवर्नेंस : द क्वालिटी चैलेंज* . 02/09/18 को प्राप्त किआ, http://blogs.worldbank.org/publicsphere/ .

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[3] उनविन, टिम. *सोशल मीडिया, डेमोक्रेसी एंड गुड गवर्नेंस*, 30/08/18 को प्रा किआ. http://www.commonwealthgovernance.org/assets/uploads/2012/10/Social-media-democracy-and-good-governance.pdf .

[4]यूनेस्को, वर्ल्डप्रेसफ्रीडमडे 2016 , मीडिया एंड गुड गवर्नेंस, 26/07/17 को प्राप्त किआ, http://www.unesco.org/new/en/unesco/events/prizes-and-celebrations/celebrations/international-days/world-press-freedom-day/previous-celebrations/worldpressfreedomday200900000/theme-media-and-good-governance/.

जयादा से ज्यादा सरकारी सेवाओं को पूर्णतः ई-सेवा के माधयम से नियत समय में उपलब्ध करा कर: जैसा की ऊपर कहा गया, उसी प्रकार सभी सरकारी सेवाओं को नियत समय में ई-सेवा के माध्यम से उपलब्ध करा कर सरकारें अपनी उत्पादकता, क्षमता और अपनी वैधता बढ़ा सकती है[1]। इस माधयम से सरकारें अपने मंत्रालयों और नौकरशाही में व्याप्त भ्रष्टाचार को भी प्रभावी ढंग से दूर कर सकती है। इसका एक बड़ा फायदा यह भी होगा की लोगों के लिए सुविधाएं प्राप्त करना आसान हो जाएगा और सरकारी कर्मिओं से कम से कम वास्ता पड़ेगा जिससे भ्रष्टाचार सम्बन्धी लेन-देन बंद हो पाएंगे।

पारदर्शिता और उत्तरदायित्व के सुझावों को अमल में लाकर और विभिन्न सुझावों को प्रोत्साहित कर: नागरिकों ने समाज में मुद्दों को उठाने विभिन्न सरकारी नीतिओं और योजनाओं की कमिओं को उजागर करने के लिए सोशल मीडिया का उपयोग करना शुरू किया है, जिसने सरकारों पर जवाबदेह बनने का दबाव बनाया है। आज जरूरत यह है कि इन नागरिक पहलों को शक की निगाह से देखने की बजाय इन्हे सु-शासन के लिए एक अवसर मान कर इन पर गंभीरता से विचार किआ जाए तथा दिए गए सुझाओं पर अमल की जाए या कमियों को दूर किया जाए। साथ ही ऐसे विभिन्न सुझाव के लिए जनता को प्रोत्साहित भी किया जाए[2]।

सुशासनके लिए न्यू मीडिया का नियमन: आज न्यू मीडया ने अगर एक अवसर दिया है तो साथ ही सुरक्षा और शांति वयवस्था के लिए कई खतरे भी खड़े किए है। अपराधिओं और अवांछित तत्वों ने भी इसका धडल्ले से उपयोग करना शुरू किया है। न्यू मीडिया के मुख्य धारा में आ जाने से साइबर अपराध और भी बढ़ गए है। न्यू मीडिआ के गलत उपयोग ने सु-शासन के सामने भी कई चुनौतियां कड़ी कर दी है। कुछ सरकारों ने तो घबराकर न्यू मीडिया को नियंत्रित करने के प्रयास में इंटरनेट सेवाओं को ही बंद कर दिया है जबकि कुछ ने कई साइट्स को प्रतिबंधित किया है। परन्तु निश्चित ही यह सही रास्ता नहीं कहा जा सकता है क्योकि इससे सुशासन प्राप्ति की एक बड़ी संभावना और यन्त्र पर ही विराम लग जाता है। वास्तव में इसका सही तरीका नियंत्रण नहीं बल्कि नियमन है और नियमन के लिए किसी प्रतिबंधात्मक कदम की जरूरत नहीं होती। न्यू मीडिया के नियमन के लिए आज दुनिया भर में बेहतर कानूनों की आवश्यक है जो इसके दुरुपयोग. कर्ताओं की पहचान कर सके और उचित दंड दिलवा सके साथ ही नियमन में सोशल साइट्स से बेहतर ताल-मेल विशेष कारगर हो सकती है[3]। नियमन और सरकार की सक्रियता न्यू मीडया का शांति निर्माण में बेहतर प्रयोग कर सकती है।

न्यू मीडिया का सुशासन के लिए उपयोग में निजी क्षेत्र से सीख और वृहद् सुविधा तंत्रों का निर्माण: आज दुनिया भर में आर्टिफीसियल इंटेलिजेंस के माध्यम से कई व्यापार मॉडलों को सफल बनाया गया है। आज अमेजॉन, ओला, ओलेक्स और ऐसे ही बहुत सारी कम्पनीआं अपने कार्य को बेहतर सॉफ्टवेयर के माध्यम आसान कर पा रही है सरकारों को भी इसी प्रकार के सरलतम और उपयोग योग्य सुविधा साइट्स का निर्माण कर सकती है। इस माध्यम से सरकार सेवा प्रदान करने की नई मिशाल प्रस्तुत्त कर सकती है।

सुशासन के लिए न्यू मीडिया के उपयोग में आने वाली बाधाएँ और चुनौतियां

गोपनीयता: यह ई-गवर्नेंस का एक और महत्वपूर्ण मुद्दा है। नागरिकों द्वारा प्रदान की गई कई जानकारी सुनिश्चित की जानी चाहिए। आज बड़ी संख्या में नागरिक अपनी गोपनीयता के उन्लंघ की आशंका से ग्रसित है। हालांकि विभिन्न संस्कृतिओं में यह बहस का विषय हो सकता है की क्या निजी होना चाहिए और क्या सार्वजानिक परन्तु एक न्यूनतम निश्चित चीजें हर जगह गोपनीयता के दायरे में आती है। आज जिस प्रकार लोगों की जानकारियों तक साइट्स संचालको की पहुंच है उससे आसानी से लोगों की गोपनियतों का उन्लंघन हो रहा है[4]। इसके लिए सरकारों को निश्चित ही नियम और कानून पर विशेष ध्यान देना होगा। सरकारों से भी यह उम्मीद की जाती है कि वे डिजिटल स्पेस को सेंसर न करें, अपने नागरिकों पर जासूसी न करें, लोगों को सुरक्षित सोशल मीडिया उपयोग के लिए

[1]अनन्तसायनम, श्रीराम, मार्च 06, 2013, *सोशल मीडिया फॉर गुड गवर्नेंस*. द हिन्दू.

[2]वही.

[3] कोल्टे, अंडरस;संपा. 2014.*मीडिया फ्रीडम एंड रेगुलेशन इन न्यूज़ मीडिया वर्ल्ड*, हंगरी, वॉटर्स क्लुवर लिमिटेड.

[4] मिल्स, जॉन एल. 2015. *प्राइवेसी इन द न्यू मीडिया एज*, फ्लोरिडा,यूनिवर्सिटी प्रेस ऑफ़ फ्लोरिडा.

शिक्षित करें और डिजिटल स्पेस आधारित सभी सेवाओं और व्यवसायों को, चाहे वे सरकारी हो या निजी, अधिक पारदर्शी होना सुनिश्चित करें[1]।

डाटा सुरक्षा: अपने निजता और गोपनीयता से अलग भी विभिन्न प्रकार के अन्य डाटा को लेकर लोग ससंकित है जिससे लोगो को जोड़ने में समस्या आती है। लोग आज बड़े पैमाने पर अपना डाटा विभिन्न सरकारी और गैर सरकारी साइट्स पर रखते है परन्तु अक्सर ही ऐसे समाचार आते है जिसमे डाटा चोरी उजागर होती है। ब्रिटिश अनलिटीका जैसे उदहारण ऐसे बताते है की डाटा सुरक्षा के लिउए उचित कानूनों के साथ साथ एक ऑम्बुड्समैन और अन्य साइबर विशेषित एजेंसियां भी होनी चाहिए जो लोगों की डाटा चोरी से सम्बंधित मामलों में साइट्स की निगरानी रखे और सुरक्षित उपयोग सुनिश्चित करें। इसी प्रकार ऑनलाइन लेनदेन की सुरक्षा भी बड़ी समस्या बन कर उभरी है जिसके लिए न सिर्फ देश में साइबर अपराध पर गंभीर होने की जरूत है बल्कि विश्व स्तर पर एक व्यवस्थित ढांचे की जरूत है।

डिजिटल डिवाइड: भारत में डिजिटल साक्षरता की कमी की वजह से न्यू मीडिया के उपयोग में बाधाए आ रही है। न्यू मीडिया के उपयोग को बढ़ाने के लिए डिजिटल-डिवाइड को ख़त्म कर डिजिटल एक्सेस की तरफ बढ़ने की आवश्यकता है। सुशासन में भागीदारी के लिए डिजिटल साक्षरता के प्रसार की आवश्यकता है जिसमे स्कूलों, विश्वविद्यालयों और गैर सरकारी संगठनों की महती भूमिका हो सकती है। डिजिटल डिवाइड को दूर करने के लिए ऐसे आधारभूत ढांचे की भी आवश्यकता है जिसमे हर किसी के लिए हार्डवेयर सेट और ब्रॉडबैंड की सुलभता हो[2]। देशों में आज भी डिजिटल साक्षरता में व्यापक विषमता विद्यमान है। दुनिआ भर में आज भी इंटरनेट प्रयोग करने वाले लोगों का कुल प्रतिशत 54 प्रतिशत ही है। वही भारत मे यह आज भी मात्र 38 प्रतिशत लोग इंटरनेट का प्रयोग करते है, उसमे भी दिसंबर 2017 तक, शहरी भारत में जहाँ 65 प्रतिशत लोग इंटरनेट उपयोग करते थेवही इसकी तुलना में, ग्रामीण भारत में मात्र 20 प्रतिशत लोग इंटरनेट का प्रयोग करते थे[3]। अब मोबाइल फ़ोन की दूर दराज़ तक पहुंच इस बड़े अंतर को कम करने में कारगर हो सकती है, जिसके लिए सरकार कार्यरत है।

कीमत: न्यू मीडिया के सुशासन में उपयोग में उपकरण की ऊंची कीमत भी एक समस्या है जिसमे हैंडसेट के साथ-साथ डाटा कीमत भी शामिल है। यह बाधा विशेष रूप से विकासशील देशों के साथ है जहाँ गरीबी उन्मूलन अपने आप में सुशासन का एक बड़ा लक्ष्य है। हलाकि भारत ने इस मामले में एक उपलब्धि हासिल की है कि यहाँ डाटा और उपकरणों की कीमत काफी कम हुई है परन्तु अभी भी इंटरनेट और न्यू मीडिया तक लोगो की पहुंच बहुत ही काम है। इसलिए, यह तथ्य न्यू मीडिया के वयापक उपयोग की संभावनाए काफी सिमित कर देता है। इसके विस्तार के लिए पुस्तकालयों और स्कूलों जैसे सार्वजनिक स्थान चयनित किए जा सकते है जहाँ व्यक्तिगत हार्डवेयर खरीद के बिना भी लोगों को ई-सुविधाएं प्रदान की जा सकती है, भागीदारी सुनिश्चित की जा सकती है और डिजिटल माधयम से संवाद में सक्षम बनाया जा सकता है।

भाषा: न्यू मीडिया के उपयोग में अभी भी प्रमुखतः इंग्लिड का ही उपयोग हो रहा है और दुनिया भर में विभिन्न भाषाओँ में इसके अनुवाद या मौलिकताओं के आभाव में न्यू मीडिया का प्रसार गैर-इंग्लिश भाषी क्षेत्रों में बहुत कम हैयाशहरों तक सिमित रह गया है[4]। भारत जैसे देश में जहाँ भाषाई विविधता है, विभिन्न भाषाओँ में साइट्स का मौजूद नहीं होना न्यू मीडिया को सिमित करता है साथ ही सरकार जन भागीदारी करा पाने में भी पीछे रह जाती है। आज भी ज्यादा तक सरकारी साइट्स या तो इंग्लिश में है या अन्य भाषा में मौजूद साइट्स पर उपलब्ध सामग्री

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[1] उनविन, टिम. *सोशल मीडिया, डेमोक्रेसी एंड गुड गवर्नेंस,* 30/08/18 को प्राप्त किआ. http://www.commonwealthgovernance.org/assets/uploads/2012/10/Social-media-democracy-and-good-governance.pdf .

[2]केनिस्टों, केनेथ; दीपक कुमार. संपा.2004.*आई टी एक्सपेरिएंस इन इंडिया ब्रिजिंग द डिजिटल डिवाइड,* नई दिल्ली, सेज पब्लिकेशन.

[3]इंटरनेट एंड मोबाइलएसोसिएशनऑफ़ इंडिया. *इंटरनेट इन इंडिया 2017.* 25/04/18 को प्राप्त किआ, http://www.iamai.in/

[4]आलिआ, वलेरिए. 2010.*द न्यू मीडिया नेशन: इंडिजिनियस पीपल एंड ग्लोबल कम्युनिकेशन.* न्यू यार्क, बेरगाहन बुक्स.

गुणवत्ता में इंग्लिश सामग्री से बहुत नीचे है। भाषा, उपकरणों और तमाम ढांचागत सुविधाओं की उपलब्धता से भी अलग एक ऐसा क्षेत्र है जहाँ सरकारों को विशेष ध्यान देना होगा जहा अभी भी सबसे काम ध्यान दिया गया है।

भारत सरकार द्वारा सुशासन के लिए न्यू मीडिया के उपयोग की पहल

भारत सरकार ने वर्ष 2006 में राष्ट्रीय ई-गवर्नेंस प्लान (एनईजीपी) बनाई जिसमे इंटरनेट आधारित मीडिया के माध्यम से भारत के नागरिकों को सभी सरकारी सेवाएं उपलब्ध कराने के लिए एक पहल की गयी। एनईजीपी इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी विभाग (डीआईटीवाई) और प्रशासनिक सुधार व लोक शिकायत विभाग (डीएआरपीजी) द्वारा तैयार किया गया था। सरकार ने 18 मई 2006 को 27 "मिशन मोड प्रोजेक्ट्स" (एमएमपी) और टेनकंपोनेंट्स सहित राष्ट्रीय ई-शासन योजना को मंजूरी दी। यह डिजिटल इंडिया की एक पहल के रूप में शुरू किया गया था। बाद में एनईजीपी के तहत सुशासन एक लिए ई-गवर्नेंस के तहत "न्यू-एज गवर्नेंस के लिए एकीकृत मोबाइल एप्लिकेशन" (यूएमएएनजी) की पहल सामने आई[1]। भारत सरकार ने इसी प्रकार की कई अन्य पहलें भी की हैं। ई-गवर्नेंस से अलग सूचनाओं के आदान प्रदान के लिए और सेवाएं सुरक्षित करने के लिए न्यू मीडिया का उपयोग किआ जा रहा है। भारत में सरकार की पहल से इंटरनेट और टेलीफोन उपयोग की कीमतों में काफी कमी आई है साथ ही ग्रामीण क्षेत्रों तक ब्रॉडबैंड उपलब्ध करने के प्रयासों में भी तेजी आई है। भारत में केंद्र और राज्य सरकारों ने विभिन्न मंत्रालाओं को न्यू मिडिया के माध्यम से जनता तक पहुंचने का कार्य किआ है। विशेष रूप से केंद्र सरकार में आज पी.एम.ओ., विदेश मंत्रालय, रेलवे, आयकर विभाग और अन्यों ने बहुत सी ऐसी पहले की है जो मिसाल बन कर उभरी है।

निष्कर्ष

न्यू मीडिया ने सरकारों के सामने सुशासन शापित करने के लक्ष्य में एक बड़ा अवसर प्रदान किआ है जिसमे वे जनता से सीधे जुड़ कर एक तरफ जहा अपना उत्तरदाईत्व सुनिश्चित कर सकते है वही अपनी वैधता भी बढ़ा सकते है। इस मध्यम से, एक तरफ जहा वे शासन में पारदर्शिता ला सकते है वही जनता की प्रतिक्रियाएं लेकर शासन को और सुचारु रूप से चला सकते है। परन्तु न्यू मीडिया एक दोधारी तलवार है, क्योकि इसका उपयोग सही और गलत दोनों तरीकों से हो सकता है साथ यह सरकारों के स्थाईत्व और जनता के अधिकार दोनों के लिए खतरनाक भी हो सकती है परन्तु इसका अर्थ यह नहीं है की इस पर प्रतिबंध लगाया जाए या नियंत्रण की तरफ बढ़ा जाए क्योकि ये कदम न्यू मीडिया के सभी लाभों से हमें वंचित कर देंगे। बल्कि, न्यू मीडिया के बेहतर उपयोग के लिए उचित कानूनी ढाच और तर्कसंगत नियमन की जरूरत है। दूसरी तरफ न्यू मीडिया के बेहतर उपयोग के लिए सेवाओं को ई माधयमों से उपलब्ध कराने और ऑनलाइन शिकायतों के निवारण की आवश्यकता है। लोगो के सुझाव और आलोचनाओं को प्रयोग करते हुए सरकारी सेवाओं में सुधार आवश्यक है साथ ही लोगो को सुझाव देने के लिए प्रोत्साहित करना जरूरी है ताकि जयादा से ज्यादा लोगो को भागीदार बनाया जा सके। इन संभावनाओं से अलग न्यू मीडिया का सुशासन में उपयोग सुनिश्चित करने के लिए इसमें आने वाली बाधाएँ दूर करनी होंगी। आज न्यू मीडिया के उपयोग में निजता के उन्लंघन, डाटा चोरी, डिजिटल डिवाइड, उपकरणों की कीमत और भाषागत समस्याए प्रमुख है जीने दूर कर सरकारें सुशासन के अपने लक्ष्य को प्राप्त कर सकती है।

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[1]मिनिस्ट्री ऑफ़ कम्युनिकेशन एंड इनफार्मेशन टेक्नॉलजी.2011.*राष्ट्रीय इ-गवेर्नस योजना रिपोर्ट – सारांश.* नई दिल्ली, नेशनल ई-गवर्नेंस डिवीज़न, भारत सरकार. प्राप्त किआ गया 30/07/2018. http://meity.gov.in/writereaddata/files/Compendium_FINAL_Version_220211(1).pdf

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ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

ledkyhu fgnh xty % jktuhfrd foe”k

ik- Mk- “k[kj ikMjx ?kxjokj
fgnh foHkkx] o lrjko ukbd egkfo|ky;] o lj.kh uknM

xty dk0; dh ,d cgr gh ijkuh vkj cgr gh ykdfi ; fo/kk jgh g A okLro e dk0; dh vud fo/kk, g A fdr bu lHkh fo/kkvk e xty gh ,d ,lh fo/kk g] ftlu tuekul dk vR;kf/kd iHkkfor fd;k g A xty ;g “kCn vjch Hkk’kk dk g] fdr vjch e xty ugh feyrh g A xty Qkjlh Hkk’kk e feyrh g A Qkjlh l xtyk dk vkxeu mn e gvk vkj fQj Qkjlh mn dk n[kdj fgnh e xtyk dh vorj.kk gb A bld ckn Hkkjrh; vU; Hkk’kkvk e xty fy[kh xb vkj ipfyr gb A

xty vjch Hkk’kk dk “kCn g ftldk “kkfCnd vFk g ife rFkk i ;lh l okrkyki] xty eyr % ,d ,lh dk0; fo/kk g ftldk dfn; fo’ke ie g A fgnh lkfgR; dk’k ¼Hkkx 1½ e xty dk vFk ukfj;k l ie dh ckr djuk A1

i[;kr lkfgfR;d j?kifr lgk; fQjkd xkj[kijh lkgc xty dk ifjHkkf’kr djr g, dgr g] tc dkb f”kdkjh txy e dRrk d lkFk fgju dk ihNk djrk g vkj fgju Hkkxr Hkkxr fdlh ,lh >kkMh e QI tkrk g] tgk l og fudy ugh ldrk ml le; mld d.B l ,d nn Hkjh vkokt fudyrh g A mlh d:.k Loj dk xty dgr g A2 blhfy, foo”krk dk fn0;re :i e idV gkuk] Loj dk d:.kre gk tkuk gh xty dk vkn”k g A

xty fo/kk viu ey:i e lkerh ;x dh nu] ftlu njckjk l fudydj igy lQh lrk dh njxkgk ij viu >.M Qgjk, vkj fQj vke vkneh d thou l tMrk x;k A ledkyhu fgnh xty e vk/kfud Hkkock/k vke vkneh dh ihMk] mldk vkfLrRo l?k’k vkfn vud lonukvk dk vfHk0;fDr inku dh xb g A

ledkyhu fgnh xtyk e jktuhrh dk fp=.k djuk fgUnh xty dk ,d vk;ke jgk g A fgnh xtydkjk u Hk’V jktuhfr ij rh[k igkj fd, g A Lor=rk d igy jktuhfr dk ,d vyx edln Fkk tk n”k dk vktknh fnykuk vkj bld fy, db urkvk u viuh gj rjg l dckfu;k nh vkj n”k d fy, “kghn gk x, A yfdu Lor=rk d ckn jktuhfr e dN ,l ykxk u io”k fd;k tk jktfurh d uke ij n”k dk “kk’k.k fd;k vkj fd;k tk jgk g A fdlh Hk’V jktfurh dk xtydkjk u c ckdhl viuh xtyk e o.ku fd;k A

vkt vkneh urk ykxk ij Hkjklk djr g A ;g urk ykx fdlh teyk vkj oknk d cgku l puko thr tkr g vkx vkj pydj mu teyk vkj oknk dk Hky tkr g A doy viuk LokFk n[kr g A ftld dkj.k lkjk jktrU= Mxexku yxrk g A fgnh xtydkjk u bldk ekfed fp=.k fd;k g A

jguekvk dh vnkvk i fQnk g nfu;k A

bl cgdrh gb nfu;k dk lHkyk ;kjk A A3

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

vkt jktuhfr e lkj urk ykx viu gh fj"r ukr okyk dh vkj n[kr g vkj mUg gh jktfurh e yku dk i;kl djr g A mlls gkykr loju d ctk, fc?kMu yxr g] mldk Hkh fp=.k ledkyhu xtydkjk u fd;k g A

ejr lokju e fcxMrh pyh xb

igy l gk tgk vkj Hkh [kjkc A A4

vkt jktuhfr dh gkykr cgr [kjkc gk xb g A vke vkneh ij db rjg l ikcfn;k yxkb tk jgh g A yfdu tk vkne[kkj g] og cVkd ?ke jg g A jkt/kkuh Hkh cgjh gk xb g A vke vkneh dk vkdk"k dl lu ikrh pkj ykx Hkh Hkk'k.k nu yx g A blds fp=.k nf[k,

vkneh ij rk yxk ikcfn;k

?ker cVkd vkne[kkj rd A

cl x;k g ,d cgjkiu ;gk]

lu u ikrh jkt/kkuh "kkj rd A

vkt Hkk'k.k n jg g fuon ij

bl vtc cLrh e ;kjk A pkj rd A5

vkt jktuhfr okV iku d fy, urk ykx tyr g, lokyk dk turk d lkeu [kMk djd viuk LokFk lk/ku dk i;kl djr g] vkj puko thru d ckn lcdN Hky tkr g A

bl jktuhfr }kjk egt okV d fy,

tyr g, lokyk dk ink fd;k x;k A6

tc puko dk ekle vkrk g rc ;g urk ykx fdlkuk dk leFku djr g vkj okV iku d fy, [kn dk fdlku ;k fdlku dk cVk dgr g A pukoh ipkj d fy, c;kuk dk Nki dj txg txg fpidk;k tkrk g A blds o.ku nf[k,

flQ xkok d okV iku dk

ykx cur jg fdlu cgr A

vk jgk g puko dk ekle

Ni jg g b/kj c;ku cgr A7

vkt dh jktfurh e nycnyvk dh dkb deh ugh g blds o.ku Hkh ledkyhu xtydkjk u fd;k g A

vkt dh jktuhfr dh jHkk

fny dgh] ny cny jgh g dgh A8

vkt n"k e cdkjh vkj xjhch c< jgh g vkj ; urk ykx Hk'V cM vQlj g cu cB g A ;g n"k dk yV jg g] cjckn dj jg g] viuk vkj viuokyk dk Hkyk dj jg

ISSN: 2394-3114
Vol.40-Issue.89-March, 2020

g] cMh pkykdh d lkFk urk ykx xhnM dh rjg >iV dj oDr dk Qk;nk mBk jg g A n"k dk [krj e crk dj [kn gh n"k dk [krj e Mky jg g A

pkV le> n"k dk fQj pkV tkvk n"kdk

vki [kkvk vkj cPpk dk f[kykvk n"k dk

nj eMjkr jg vkdk"k e fQj ,dne

bd >liVVk ekj itk e nckvk n"k dk

Hkk'k.kk dh HkLe ukjk] d "kgn e ?kkV dj

n"k chekj crkdj pVkvk n"k dk A9

vkt lekt e lcdN jktuhfr d b"kkjk ij py jg g A D;k /ke] D;k bcknr e lc jktuhfr ij fuHkj g A /ke vkj /ke dk ekuu oky ; lHkh jktuhfr d gkFkk e g A

dku lk /ke bcknr ; dku lh dfg,

[ku l ftldh fgQktr e gj c"kj g ;gk A

nhu gkFkk e fl;klr d x;k ghu gvk]

lkQ eryc g fl;klr dk fQj dgj g ;gk A10

fu'd'k %

fgUnh xty lkfgR; dk jktuhfr l xgjk lc/k jgk g A tc tc jktuhfr viu vkn"kk l gVrh g rc rc fgUnh xtydkjk u jkturkvk dh vk[k [kkyu dk i;kl fd;k g A vkt lkj n"k e jktuhfrd 0;oLFkk Mxexku yxh g A urk ykx vke turk dk ncku yx g A turk fojk/k ugh dj ikrh Hk'Vkpkj] tkrhokn] vkrdokn] ukjh "kk'k.k] vyxkookn vkfn db fo'k;k dk ydj ledkyhu xtydkjk u c[kch fp=.k fd;k g A

lnHk

1- fgUnh lkfgR; dk"k] Hkkx 1] liknd /khjUn oek] i- 278

2- vkbuk- ,- xty] Mk- tjhuk / lkuh okbdj] i- 242

3- lk; e /ki] n';rdekj] i- 57

4- lk; e /ki-n';rdekj] i- 23

5- "kkfe;ku dkp d-Mk*- dvj cpu] i- 69

6- pknuh dk n%[k - Tkghj dj"kh] i- 16

7- pknuh dk n%[k- Tkghj dj"kh] i- 38

8- pknuh dk n % [k- Tkghj dj"kh] i- 41

9- ?kj ryk"k dj- i :'kkRre irhd] i- 27

10- uhe dh ifRr;k-jktdekj d'kd] i- 36

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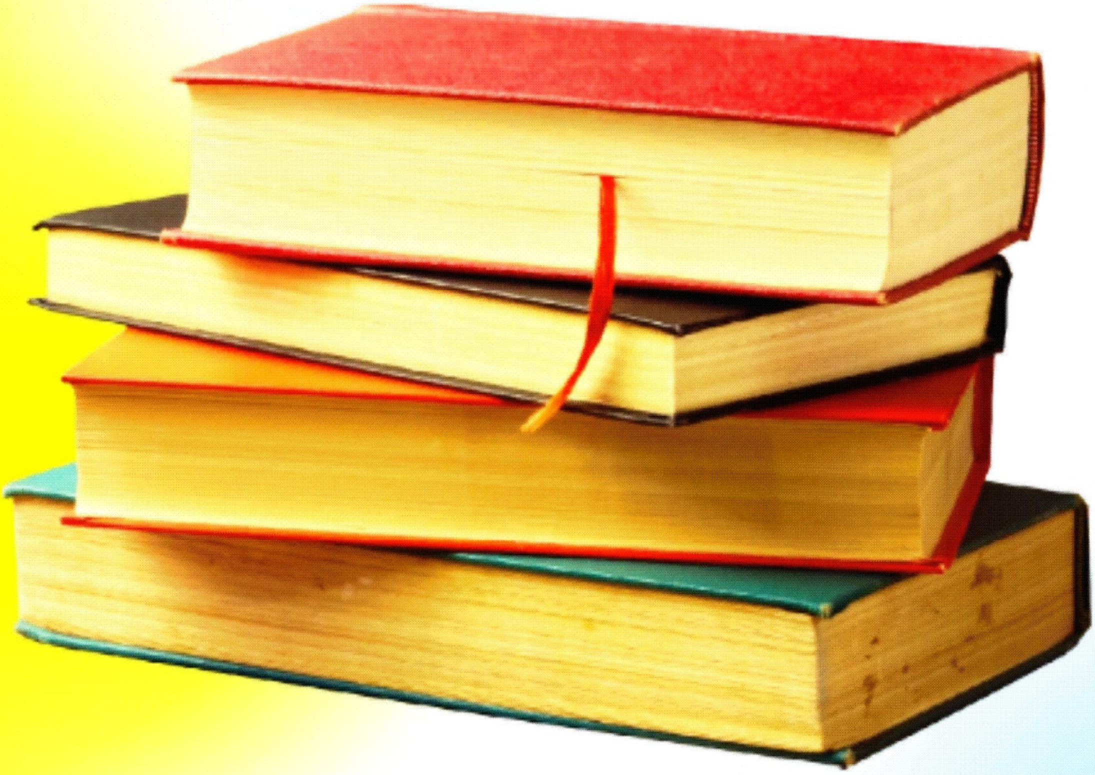

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