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on

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I.T.S - The Education Group is an 24 years old leading educational group of the country. Its various programmes are NBA accredited & NAAC (A-Grade) accredited. ISO 9001:2008 certified group offers 20 courses to its 8000 students in its 8 Institutes spread over 4 campuses, endowed with state-of-the-art infrastructure, all modern facilities and more than 700 distinguished faculty members.

I.T.S - The Education Group is a renowned and established educational group offering programmes in Management, IT, Dental, Engineering, Pharmacy, Biotechnology and Physiotherapy. PGDM programme offered by I.T.S is equivalent to MBA as certified by the Association of Indian University (AIU) which is a rare recognition given to any such programmes in India.

I.T.S is headed by Dr. R. P. Chadha as its Chairman who believes in nurturing the potential of the students and ensuring it to grow into a commitment to create a Thinking Professional Order. There is a strong societal, industry, professional and fraternity participation rendering the graduated students as highly sought after products in the professional field.

All the Institutes under I.T.S – The Educational Group, are supported by full-time experienced and qualified faculty members who also act as mentors. All the courses are either affiliated to Universities and/or approved and accredited by AICTE. Apart from ISO 9001:2008 certification, the campuses are Wi-fi enabled. Value added inputs together with research work, seminars, paper presentation, MDPs and FDPs are a way of life. The group lays due stress on the development of the student not only as a professional but also as a worthy members of the society.

The I.T.S Group of Educational Institutions has 4 different campuses offering different professional courses. The Mohan Nagar campus started in 1995 in Ghaziabad offering PGDM, approved and accredited by AICTE and equivalent to MBA by AIU. The MCA/MBA programs are approved by AICTE and affiliated to AKTU, Lucknow. The BBA and Bca programs are affiliated to C.C.S. University, Meerut.

The Campus at Muradnagar started in the year 2000 imparts MDS (Approved by Dental Council Of India), BDS (Recognised by DCI & affiliated to C.C.S.), M.Sc (Biotech)/ B.Sc (Biotech) and BPT and MPT(affiliated to C.C.S. University, Meerut) and B Pharma and M Pharma which is approved by AICTE and affiliated to AKTU, Lucknow. Two campuses in Greater Noida started in 2006 and located at Knowledge Park III, offers B.Tech (approved by AICTE and affiliated to AKTU, Lucknow) with specialization in CS, IT, EC,ME & EE and MBA which are also approved by AICTE and affiliated to AKTU, Lucknow. The second campus established as Dental College and Hospital offers BDS and MDS which are approved by Dental Council Of India.

The admissions in all the Campuses are exceptionally in demand showing the growing popularity of the brand. This is duly backed by the placement records of the group with its passout being getting selected immediately in companies of repute.

I.T.S supplements education with its CSR activities offering help, care and guidance to the down trodden and unprivileged segments of the society. I.T.S-The Education Group offers nonprofit medical care to society through its two, 100 bedded fully equipped multi-speciality hospitals.

## ABOUT CONFERENCE

Corporate involvement in societal issues is not new. Companies have deployed a portfolio of tools to exercise their citizenships in society, including corporate governance, corporate philanthropy and corporate social responsibility. Social innovation is distinct from these traditional approaches in pursuit of societal challenges and in ways that leverages company core competencies such as human capital, supply chain management, technology, sales & distribution system and create tangible sustainable business benefits by aligning company's innovations & business strategies with social issues and problems and to find out a meaningful long term solutions. In recent years, the non-profit organizations (NPOs) and social entrepreneurs create social innovation through information and communication technique approach to social innovation. The regular use of low-priced, high-performance devices, such as smartphones, personal computers and services (e.g., cloud services) have become more prevalent in social innovation. The prevalent use of ICT to create social innovation suggests that it is necessary to focus on the change in the business process through the introduction of ICT as well as the relationship between human value-creation networks and entrepreneurship.

It is realistic about challenges facing India at the threshold of a huge socio-economic transformation: rapid urbanization, digital revolution, a huge youth population, strained infrastructure, low per capita income and unbalanced urban/rural growth. This requires optimistic discussions for innovative, practical, sustainable market based approaches thereby accepting power and realities of information technology, digitalization and operation system to benefit society in general and low income or underserved population in particular.

This will take a particular shape when academicians, business executives, political leaders, policymakers, and technological innovators gather at a common platform to address such issues in more strategic, more ambitious and more collaborative manner in order to access and provide opportunity for billions of low-income people to participate in the global economy.

## ABOUT IARA

Indian Academicians and Researchers Association ( IARA ) is an educational and scientific research organization of Academicians, Research Scholars and practitioners responsible for sharing information about research activities, projects, conferences to its members. IARA offers an excellent opportunity for networking with other members and exchange knowledge. It also takes immense pride in its services offerings to undergraduate and graduate students. Students are provided opportunities to develop and clarify their research interests and skills as part of their preparation to become faculty members and researcher. Visit our website [www.iaaedu.com](http://www.iaaedu.com) for more details.



## Message from the Chairman

It gives me great pleasure to note the publication of the conference compendium for the International Conference on “Convergence of Social Innovation and Digital Transformation in Business (ICCSIDTB-2020, Part-II)”. The international conference is a flagship event in the calendar of the Institute of Technology and Science, Mohan Nagar. It provides a valuable opportunity for the confluence of ideas in diverse streams of thought in management and allied areas like Marketing, Human Resource Management, Finance, Operations, In, Part-Information Technology, Ethics, International Business, etc.

This convergence of thoughts on a particular relevant and contemporary concepts and issues is like Samudra Manthan of Indian Mythology, just as churning of the ocean of thoughts resulting in the creation of Amrit or Divine Nectar for educationists, researchers, business professionals and policy makers. The deliberations and discussions at ICCSIDTB-2019 is expected to widen the scope of research and Knowledge base and in the diversified areas of management, information technology, business and society .

I would like to take this opportunity to greet and express gratefulness for the concerted efforts of academic fraternity, researchers, business practioners and technologists for providing thought provoking contributions.

I am also indebted to them for choosing to participate in the conference at I.T.S Mohan Nagar and thus helping in raising the standards of academic excellence.

**Dr. R. P. Chadha**  
Chairman I.T.S. - The Education Group

## Message from the Vice Chairman

It is indeed a matter of great pride and pleasure that the Institute of Technology and Science, Mohan Nagar successfully organized the International Conference on “Convergence of Social Innovations and Digital Transformation in Business” (ICCSIDTB-2020, Part-II).

The two day conference witnessed enthusiastic participation from different parts of the country and abroad as academicians, researchers and business practitioners for deliberations on a variety of themes across diversified areas of management, information technology, business and society. A heartening feature of the conference was substantial participation and presentation of academicians, researchers and business professionals with thought provoking concepts and ideas on social innovations and digital transformation in more strategic, more ambitious and more collaborative manner in order to access and provide opportunity for billions of low-income people to participate in the global economy

Overall the conference provided a fertile ground for the productive exchange of ideas, laying the foundation for further research in the relevant fields. In order to ensure that the papers presented during the conference are available for posterity, and more importantly, accessible for use by future researchers, we are bringing out this compendium.

We are happy that Cengage has undertaken to be our partner in this endeavor. I believe, publication of this compendium will help and encourage researchers and educationists to delve more into these areas and unearth newer nuggets of wisdom.

I hope that future conferences at I.T.S are able to build on this head start and further excel and strengthen the path of knowledge and research in various fields of management and technology.

**Shri. Arpit Chadha**  
Vice Chairman  
I.T.S-The Education Group

## From the Desk of Director

We feel highly delighted that Institute of Technology and Science, Mohan Nagar organized two days international Conference on “Convergence of Social Innovations and Digital Transformation in Business” (ICCSIDTB-2020, Part-II).

The objective behind the conference is to suggest measures in order to access and provide opportunities for billions of low income people to participate in the global economy and to discover unique approach to expedite social innovations by dissolving boundaries and facilitating dialogues between the public, private, and nonprofit organization taking into considerations of speed, space and sustainability.

The publication of the conference compendium for the International Conference is the sum total transactions of thoughts and concepts delivered and presented by the participants and dignitaries deliberations on a variety of themes across diversified areas of management, information technology, business and society.

It is hoped that the papers and abstracts included herein will spark greater interest in the area of social innovation and digital transformation leading to holistic development of research and academic excellence.

We are thankful to all the teachers, researchers and business professionals who invested their valuable time and effort in writing these papers, and chose to contribute for this compendium.

We would also like to take this opportunity to express our gratefulness to the management, faculty, staff and students, without whose efforts this conference would not have been possible.

With best wishes

**Prof.(Dr.) Vidya Sekhri**  
Director (Management)  
I.T.S Mohan Nagar, Ghaziabad

## Preface

It is realistic about challenges facing India at the threshold of a huge socio- economic transformation- rapid urbanization, digital revolution, a huge youth population, strained infrastructure, low per capita income and unbalanced urban/rural growth. This requires optimistic discussions for innovative, practical, sustainable market based approaches thereby accepting power and realities of information technology, digitalization and operation system to benefit society in general and low income or underserved population in particular.

Social entrepreneurship and social enterprise have been popular for those trying to improve the economic world. These two notions are positive ones; but neither is adequate when it comes to understanding and creating social change in all of its manifestations. Social innovation is a better vehicle for doing this. Most of today's innovative social solutions cut across the traditional boundaries separating nonprofit organizations, government, and for-profit businesses. Unique approach to social innovation may be dissolving boundaries and brokering a dialogue between the public, private, and nonprofit organization taking into considerations of speed, space and sustainability.

Companies have deployed a portfolio of tools to exercise their citizenships in society, including corporate governance, corporate philanthropy and corporate social responsibility. Social innovation is distinct from these traditional approaches in pursuit of societal challenges and in ways that leverages company core competencies such as human capital, supply chain management, technology, sales & distribution system and create tangible sustainable business benefits by aligning company's innovations & business strategies with social issues and problems and to find out a meaningful long term solutions.

View points before organizing this conference and publication of this compendium is addressing and documenting company's innovation and business strategies with social issues and problems in order to leverage company's core competencies and creating sustainable business development and hence to discuss organizational and management issues.

Furthermore it aims at Developing human capital by skill development and employment of huge youth population in rural backward areas, bringing them into the mainstream of the national economy and ensuring improved Human Development Index (HDI) at global level and to Suggest measures in order to access and provide opportunities for billions of low income people to participate in the global economy.

We are extremely indebted to all the teachers, researchers and business professionals who invested their valuable time and effort in writing these papers, and chose to contribute for this compendium.

We would also like to take this opportunity to express our deep sense of gratitude to the management, faculty, staff and students, without their efforts this conference would not have been possible. I am thankful to Cingage that has co partner of this event and shown interest in publishing this compendium.

With best wishes

**Prof.(Dr.) Manoj Kumar Jha**  
Conference Convener  
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**THE IMPACT OF BOOMING TOURISM AND HOSPITALITY INDUSTRY ON THE INDIAN ECONOMY  
– A STUDY ON CONSUMER EXPECTATION AND SATISFACTION OF BUDGET HOTELS****Deepali Anand Chopra<sup>1</sup> and Dr. (Prof) Alka Munjal<sup>2</sup>**Assistant Professor<sup>1</sup>, Amity School of Business, Amity UniversityDirector (SAA & SS)<sup>2</sup>, Amity University Noida**ABSTRACT**

*In India's economic growth tourism has become one of the major contributors; it has contributed towards GDP, employment opportunity and improving Forex Reserves. Increased domestic and foreign tourist arrivals have contributed significantly towards growth of the Indian tourism industry and subsequently the hospitality industry, which is contrary to the world tourism trends.*

*With the increase in young and business travellers the demand for economical and hygienic lodging has increased. This study aimed at identifying the expectation of such travellers from budget hotels. A sample of 74 customers was interviewed using questionnaire. It was concluded that price, physical product and promotions does not affect the decision of the customer while making the choice but it is the service quality, connectivity of the hotel and its network that are considered as important parameters before deciding the hotel.*

*Keywords: Indian tourism industry, Impact on economy, Indian hotel industry, budget hotels, consumer expectation.*

**I. INTRODUCTION****1.1 Background**

Locations that were an attraction to the British and Indian aristocracy witnessed hotel development in India before World War II. Hotels were a result of collaboration in between British individuals and Indian entrepreneurs who wanted to spend their holidays in peaceful locations. There were only a few companies owning hotels in India.

Some of the significant hotels operating during the British rule were The Rugby, Matheran (1876); The Taj Mahal Hotel, Mumbai (1900), The Grand, Calcutta (1930); The Cecil Hotels, Shimla and Muree (1935); The Savoy, Mussoorie (1936).

In the year 1956 Pt. Jawaharlal Nehru realised that the economic growth of the country could be accelerated through the tourism industry. He emphasized on building quality hotels for the foreign dignitaries visiting India. Ashoka Hotel in New Delhi was the first ever government investment in the hotel industry. Year 1966 was a breakthrough year as ITDC (Indian Tourism Development Corporation) was setup under the Indian Companies Act 1956. ITDC was a merger in between Janpath Hotel India Ltd and Indian Tourism Transport Undertaking Ltd.

Ministry of Tourism and Civil Aviation was incorporated in the year 1956 that gave the tourism industry another push. 1970 saw a new trend of franchising, M. S. Oberoi, Chairman of East India Hotels Ltd., was expanding his empire by constructing New Delhi's first modern multi-story hotel, which was franchised to U.S.-based Inter-Continental Hotels. Sheraton, Holiday Inn, Inter Continental were some of the international brands that paved their way into the Indian tourism industry through the route of franchising.

India was host to Asian Games in the year 1982 and this gave way to the National Policy on Tourism outlining the country's tourism development objectives. Licenses for building hotels in New Delhi (Venue for the games) was given to ITDC – Lodhi Hotel, The Taj – Taj Palace, Asian Hotels – Hyatt Regency, Samrat Hotel, Kanishka, Surya Hotel, Le Meridian with a clause that it should be completed before the games. This move further strengthened the First class and 5 star category hotels in India.

Officially GOI, in the year 1986 recognized tourism as an "industry" and thus it became eligible for several government incentives like tax incentives, subsidies, priorities in loans, availability of land at reasonable prices etc. Until this period the hotels focused only on the rich and foreign tourists. It was only in the year 1987 that the government realized the potential of the industry and permitted Indian firms to franchise in 3 star and 4 star hotels. With the aim of attracting tourists to India for exploring new destinations franchising permission was extended to tier II cities. FDI was allowed to the tune of 51% by the foreign investor in the year 1991 making tourism a priority sector.

“Export House” status was given to the tourism industry by the government that made travel agents, tour operators and tourist transport operators eligible for various government incentives. These transformations encouraged entry of several major international hotel chains into India **Devendra (2001)**.

### 1.2 The Transformation – Luxury to Budget Hotels

For a long time the Indian Hotel segment has been dominated by the premium luxury hotels. However, recently there has been a boom in the mid market and a distinct segment of budget hotels has emerged attracting both domestic and international players in the market.

Tier II and Tier III cities along with the destinations of pilgrimage serve as an attractive segment for these hoteliers. There exists a gap in the mid market segment and many hoteliers entered into a joint venture with Intercontinental Hotel Chain for developing “branded hotels” in the key Indian metro cities. There also exists a gap in supply of 3 and 4 star business hotels and investors are focusing to cater to this segments need. Feasibility of hotel investment is primarily determined by the entry price and market. There has been an increase in both domestic and foreign travelers traveling for the purpose of business and leisure **WTTC (2015)**

### 1.3 Tourism Industry in India and its impact on economy

The Indian service sector has been witnessing a boost and one of the key drivers for the same is hospitality industry. Both hospitality and tourism industry are two sides of the same coin and both act as a catalyst and drivers in the growth of the industry. Contrary to the world tourism trends, the Indian hospitality industry emerged as a significant player in the world market due to increased Foreign Tourist Arrival and indigenous growth propelled by domestic travellers.

The changing demographic profile of the traveller has also changed the dynamics of the industry. The world estimate of travellers above the age of 60 years is expected to rise from 900 million in 2010 to approximately 1.4 billion by 2030. These travellers want higher quality standards and sophistication. The younger travellers on the other hand are willing to explore new destinations rather than engaging in luxury **World Youth Survey & Educational Travel Confederation (2014)**

GDP growth was recorded at 7.4% in 2014-15 and the service sector growth was registered at 10.6%. The hotel and restaurants sector registered a 8.4% growth rate. Campaigns like “Incredible India”, “Atithi Devo Bhavah (ADB)”, “Make in India”, “Digital India” have helped in the growth of tourism sector in India. **Economic survey of India (2015)**

#### 1.3.1 Government Initiatives and growth drivers

The foreign tourist arrival (FTA) has taken a sharp upward trend due to varied purpose of visit ranging from holidays, medical tourism, meditation, pilgrimage, spas, meetings, business, adventure etc. **WTO (2009)**

The extension of E-Tourist Visa (E-TV) to 155 countries has led to an increase in foreign tourist arrival in India. This number grew by 202.3% year on year taking the total number of tourist visiting India to 7.8 lakhs during the FY 2016-17 **WTTC (2015)**.

An increase in the women workforce has positively changed the spending pattern of the Indian consumers. Outbound and domestic tourism has seen an unprecedented growth due to increase in disposable income. A growth of 8.7% was recorded in outbound tourism taking the figure to 19.9 million in 2015. During 2010-15 the inbound tourist volume was recorded at a CAGR of 6.8%. **ICRA (2015)**

Due to world class facilities in the medical field, Medical tourism in India has seen a robust growth. The number of people who visited India for medical purposes reached half million mark by end of 2015, implying an annual growth rate of 30%.





“Incredible India Tourism Investment 2016”, “Swadesh Darshan”, “Adarsh Smarak”, project PRASAD are some of the initiatives taken by the government to boost the tourism sector in India.

#### 1.4 Hotel Industry in India

Indian hotel industry has seen intensification due to the growing service sector that has significant contribution from the tourism industry which has further fuelled growth in the hospitality industry. The world economy is growing moderately but India has managed to outpace the rest of the countries and risen as a star. **Fragile Five** has been finely escaped and India has also managed to register itself as fastest growing economy amongst **BRICS** nations in the year 2015 **Morgan Stanley (2015)**.

In order to serve to the needs of different classes of customers, based on their perceptions the hotels have classified themselves on their basis on location and the extent of services they offered. **Anawade (2016)** in his research paper classified hotels into four distinct categories namely Heritage, Luxury, Budget and Resorts. The market share of unclassified and unbranded hotels is the largest at 65%. The next big segment is the 3 star hotels with 13% market share followed by 5 star deluxe, 5 star and 4 star having a market share of 6% each. Heritage and 2 star hotels have a meagre share of 2% each. **FHRAI (2014)**.

## II. LITERATURE REVIEW

The credit of evolution of budget hotels can be given to the development of economic and social development. A full service hotel targets the upper class where as a budget hotel focuses on general population who demand basic amenities for lodging. **Andrade (2000)** identified five important parameters that are an important characteristic of budget hotels namely location, size & diversity, lobby, guest rooms and parking.

Concept of budget hotels is not only complex but also difficult. However, there are several operational characteristics that are generic like the brand, geographical coverage, easy accessibility, centralized reservation systems, standard layouts, competitive room rates, relatively limited services and above all high monetary value **Bortherton (2004)**.

Budget hotels have made a significant change in their infrastructure, food & beverage, environment, atmosphere, accommodation, facility & services etc, which has led to greater acceptance and demand **Sunday Business (2005)**.

Whitbread budget hotels ventured into India due to the fact that it identified that there was a huge supply of 4 & 5 star hotels but there was an unaddressed need for cheap, comfortable and value for money accommodation **Parker (2007)**.

Budget hotels have been on the rise and their demand has been constantly increasing. **Wen Hua(2009)** identified the Critical Success Factors in budget hotels operating in China. The researcher concluded that price was no longer the decisive factor among guest who would choose and could afford to stay at a budget hotel. It brought out that the Chinese customer valued customer service and respect the most amongst any other parameter. Factor analysis was used to conclude the research.

**Kuldeep (2015)** examined that both domestic and international hotel chains are interested in the mid market segment due to its growing demand. Luxury hotel segment has demand of its own and will not be affected by the budget hotel segment. The increase in business travelers (mid segment) and weekend leisure traveler looking for comfortable and value for money stay are the driving forces behind the budget hotel segment.

Quality service is represented through the expectations of the customer from the hotel industry that it needs to provide along with the perceived service and performance (Parasuraman et al., 1988). Researchers have in the past established relationships in between quality and cost Crosby (1979), customer satisfaction Cronin and Taylor (1992), word of mouth marketing Caruana (2002) and profitability Santos (2003). Competitiveness of service industries is highly dependent upon the service quality Lewis (1989). Customer expectations and subsequent performance by the hoteliers determine the satisfaction level of customers. The five dimensions that the budget hoteliers should look into are the product offered, level and kind of service, pricing, promotions used and finally the location of the budget hotel (Andrade et.al. 2000)

**III. OBJECTIVES & HYPOTHESIS**

- To study the growth & emergence of Indian tourism and hospitality industry and its effect on Indian economy
- To identify the growth drivers of both tourism and hospitality industry
- To study the satisfaction parameters of consumers from budget hotels

**HYPOTHESIS**

H01: Customer satisfaction is affected by physical attributes of budget hotels.

H02: Customer satisfaction is affected by service quality of budget hotels.

H03: Customer satisfaction is affected by price offering of budget hotels.

H04: Customer satisfaction is affected by Promotion of budget hotels.

H05: Customer satisfaction is affected by location of budget hotels.

**IV. RESEARCH METHODOLOGY**

**Research design**

This study made use of a non-experimental quantitative research design. A self-report questionnaire was administered at a single point of time. The present study was articulated in a way to examine the customer expectations from budget hotels and how does it subsequently affect customer satisfaction. Physical product, service quality, price, location and promotion were the independent variables whereas customer satisfaction was the dependent variable. This study was aimed to explore and if possible then to describe the degree of relationship between dependent and independent variables in descriptive as well as quantitative terms.

**Participants**

Participants engaged in study were 74 individuals who were either working as professionals, businessmen (small and medium size) or students. Majority of respondents were Middle level executives (41.7%), Males (52.4%), and belong to 25-35 years (48.8%) age bracket. Talking about the segmentation of demographics, Age group variable was divided into three brackets 16-25 years, 26-35 years and 36 years and above years. Occupation was divided in a way to cover all the major facets of Indian service industry, broadly into 3 categories namely Business man, Office executives and Managers, students.

**Procedure**

Respondents were selected randomly from the region of Delhi NCR. In total 130 questionnaires were distributed. Out of these questionnaires, 74 questionnaires were received back over a period of 40 days of distribution. Regular follow up through calls and personal visits made the response rate of participants as 57%. To maintain the genuineness of responses all the respondents were assured that their questionnaires will be kept anonymous and confidential.

**V. RESULTS AND DISCUSSIONS**

Based on the literature review the following variables were studied to understand the customer expectations vis-à-vis budget hotels and what are the drivers of satisfaction.

Summary of the content of questionnaire

Question Subject	Details about the question
Physical Product	* Hotel design
* Size of the room	
* Restaurant facility	

\* Room comfort

\* Parking area

\* Exteriors of hotel

\* Breakfast quality

Service Quality

\* Responsiveness

\* Speed of service

\* Efficiency of guest service

\* Hygiene and cleanliness

\* Guest safety

\* Warmth of service

\* Consistency of service

Price

\* Steady pricing policy

\* Value for money accommodation

Promotion

\* Corporate discounts and deals

\* Members loyalty programs

\* Campaigns and advertisements

Location

\* Hotel network

\* Reservation

\* Convenient Locations

\* Transportation services

**Multiple Stepwise linear regression (Customer satisfaction)**

	Unstandardized	Coefficients	Standardized	coefficients	
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>T</b>	<b>Sig</b>
(Constant)	1.363	.133		2.647	.0001
Physical attributes	.411	.037	.386	3.001	.0001
Service quality	.473	.072	.474	4.645	.007
Price	.443	.059	.397	4.995	.011
Promotion	.391	.055	.383	4.093	.006
Location	.483	.063	.401	5.132	.0001

**\*Note: R=0.412; R<sup>2</sup>=0.170; Adj. R<sup>2</sup>=0.164; F = 6.937; p=0.013**

To test the hypotheses concerning the impact of various independent variables on overall customer satisfaction, multiple stepwise linear regression was administered (See Table 1). The significant contributions were registered towards customer satisfaction from all five independent variables i.e. physical attributes ( $\beta = 0.386$ ,  $t = 3.001$ ;  $p = 0.001$ ), service quality ( $\beta = 0.473$ ,  $t = 4.645$ ;  $p = 0.007$ ), price ( $\beta = 0.443$ ,  $t = 4.995$ ;  $p = 0.011$ ), promotion ( $\beta = 0.391$ ,  $t = 4.093$ ;  $p = 0.006$ ), and location ( $\beta = 0.483$ ,  $t = 5.132$ ;  $p = 0.001$ ). On the basis of data interpretation it can be further concluded here that ‘service quality’ and ‘location’ because of their high beta values contribute more to customer satisfaction than other variables.

**VI. CONCLUSION**

The concept of budget hotels is to provide basic lodging facility at an affordable price, however service quality is considered as an important parameter by the customers in enhancing their satisfaction. Another differentiating



parameter that contributes to customer satisfaction for budget hotels is the location (closer to entry and exit points, connectivity to the city) and network. Promotion, price and physical product are important parameters contributing to customer satisfaction but are not considered critical from the customer's point of view while deciding where to stay.

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**ROLE OF DIGITAL MARKETING IN SOCIAL INNOVATION FOR BUSINESS IN INDIA**

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**ABSTRACT**

*At the time of 1990s only news paper and television was the media for marketing of the goods and services. In the present time the current scenario becomes change. All marketing works are depends on social media marketing or digital marketing. Social media is basically associated with computers or any human communication or exchange of information. Social media is obtained via computer, tablet or mobile phones. There are many more websites and apps that make this possible. Social media is now becoming the largest medium of communication and is rapidly gaining popularity. Social media enables you to share ideas, content, information and news etc. very fast. The use of social media has increased unexpectedly in the last few years and has brought together millions of users from all over the world. Social media is playing a big role in our lives today. With the press of a button, we have access to very detailed positive and negative information. Social media is a very powerful medium and it affects everyone. It is difficult to imagine our life without social media, but due to its excessive use, we also have to pay its price.*

*Keywords: Social Media Marketing, Digital Marketing, Media Tools, Social Network, E-commerce and Online Retail*

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**INTRODUCTION**

Social media are a means for consumers to share text, images, audio, and video information with each other and with companies and vice versa. Social media allow marketers to establish a public voice and presence on the web and reinforce other communication activities. Because of their day-to-day immediacy, they can also encourage companies to stay innovative and relevant. Therefore; business must learn how to use social media in a way that is consistent with their business plan. This is especially true for companies striving to gain a competitive advantage. The popularity of social media for marketing purposes can be attributed to a number of advantages associated with social media when compared to traditional marketing channels.

Social media works to make any incidents happening in the country and abroad immediately. Social media can be used using any means like computer, mobile, tablet, laptop etc. WhatsApp, Facebook, Instagram, YouTube, LinkedIn and more are the major platforms of social media. Through this, any news can be spread across the country and abroad in a moment. Social media has now become the fastest communication medium in the world. Its popularity is also increasing significantly among the people. It is being used by people of all age groups. Just as a coin has two aspects, that is there are positive and negative effects of anything. Similarly, social media also has many positive and negative effects. Social media is used for good works, but gradually it is being used more for doing wrong actions.

**IMPORTANCE OF DIGITAL MARKETING IN SOCIAL INNOVATION**

According to the recent studies, companies recognized the importance and role of social media marketing and planned to increase social media budgets for next 5 years. It is a best medium to convey our information easily and effectively online. From last 7 or 8 years we have seen a sudden increase and progression on Social Media sites. Presently the most diversified Social media networks are Facebook, Twitter, Google+ and LinkedIn etc.

India is World's 7th largest in Internet Market; there are 21 million people in India who are estimated to visit social media sites regularly which are 60.3% of the total active Indian Internet audience. More than 90% of Indian online users belong to 18-45 age group which has high purchase power and high disposable income. The social media websites in India are growing by almost 100% year after year. Similarly, social media also has many positive and negative effects.

**GOVERNMENT'S "DIGITAL INDIA" INITIATIVE BACKS UP**

In order to transform the entire ecosystem of public services through the use of information technology, the Government of India has launched the Digital India programme with the vision to transform India into a digitally empowered society and knowledge economy. Now, the opportunities are not only available in metro cities but also in small towns. The government has also come up with the application for Employment programs. Everything is going digital these days. Thus, if we talk about, digital marketing career in India, then you are at the right place. Stop debating over the choices and get to know what benefits it holds.

The government’s e-marketplace is also seeing a considerable rise in its e-marketplace analytical graphs. All the registrations have gone up with minor fluctuations. The fluctuations happen at every place. People in India are getting to the technology slowly and it is going to take some time to get acquainted with it. All of this means that if the government is also giving a helping hand, then why to avoid it! Government is coming up with many projects under digital India initiative for the youths of the country.

**REVIEW OF LITERATURE**

**OBJECTIVES OF THE STUDY**

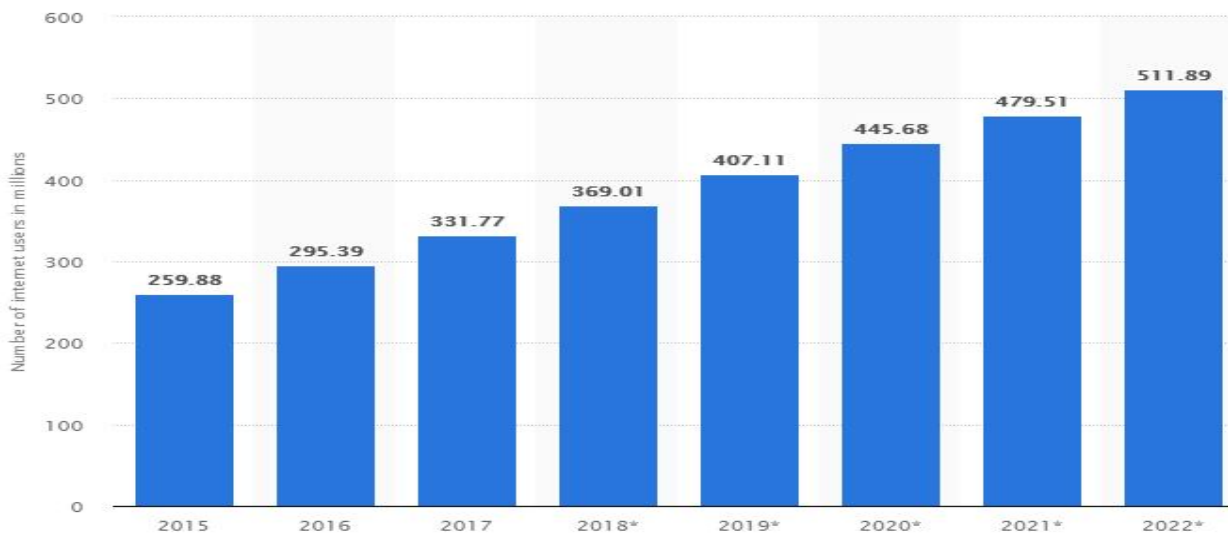
1. To know the opportunities of social media marketing in India.
2. To know the impact of social media marketing on products and services.

**RESEARCH METHODOLOGY**

A secondary study has been done to understand Social media and its importance. This study also takes place to understand the how Social media can be an essential tool for reach out to consumers and determine the impact it has on consumers.

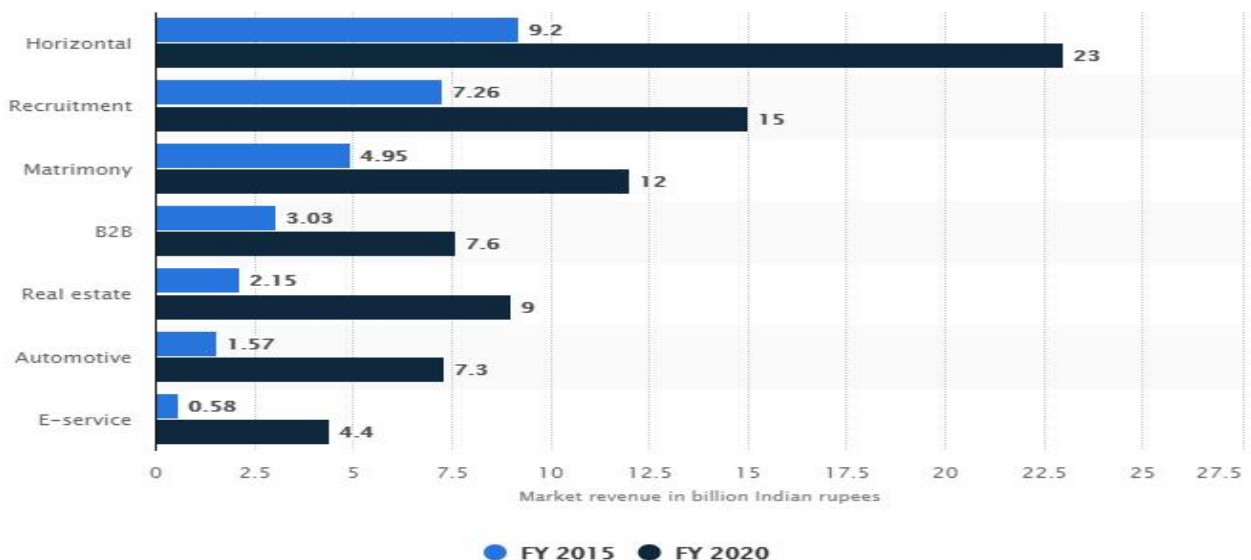
**Growth in the number of internet users**

The graph clearly says everything; People using the internet in 2015 were 259 million which go up to 331 million in 2017. It has been predicted that the number internet users are to get doubled by 2022. This is because, the rate in which the country is growing in terms of everything, people will be heavily dependent on the internet in the coming years.



**Increased digital classifieds market revenue**

It has also been predicted that the revenue generating from digital classifieds is going to be five times more than it was in 2015. In the financial year 2020, the highest revenue will be around 23 billion.



All the revenues will be doubled by 2020 in the field of digital marketing. Therefore, in order to put yourself in the driving seat, all the Indian business have to be well-worse with digital marketing in order to represent the country in the global marketplace. Not only businesses but the candidates who are looking for a career opportunity in this field can finds lakhs of jobs in almost all the cities.

**Social Media Marketing with Mobile**

Google, the biggest search engine, has shifted its focus to mobile-first index, and every digital agency India has no option but to sit up and take notice. Statistics for the US already show that 72% of all US digital ads spending by 2019 will be for mobile advertising. That is less than a year away, and Indian marketers are fully-aware of the potential of marketing directly to an individual customer.

Marketing Land has clearly stated even for offline purchases, 90% of shoppers, owning a Smartphone, will turn to the online medium to reach a decision. This is the power of digital marketing those businesses and marketing professionals will need to leverage in the future to stay in the reckoning.



Digital marketing overview reveals that Social media has been playing a supporting role to marketing. Over the years, it has been noticed that 92% of social media users are from the mobile devices. This enables the size of digital marketing industries.

**Digital Marketing with Email**

Email marketers of some of the most successful marketing agencies claim a return of \$40 for every dollar they invested. From the digital marketing overview, it was discovered that well-targeted email marketing will be one of the most effective ways of ensuring conversions in 2017. As shown from the figure below, email is one of the most effective methods for digital marketing as there is a facility to disburse messages to millions of people at a time.



### Digital Marketing and Advertising

Digital Marketing and advertising is influencing peoples to buy and sell online and e commerce is getting more and more sales. With a hi growth through Digital marketing in business companies have starter spending more and more in Digital marketing as they are getting better ROI in Digital medium compare to traditional, another major benefits are all the expense and return are measurable which is not possible in Traditional Marketing.



High Demand of Managing Companies activity over Online marketing and improve company visibility has opened a new door or opportunity. Demands are higher than supply so Peoples have one new career stream as Digital Marketer which is flexible and providing high career growth. Digital Marketing is a rapid career growth not only in India but also throughout the world. Companies are getting more and more dependent over internet to generate faster revenue for their business.

### FINDINGS

1. Organization in order to save their budget they should promote their products and services on one proper channel, which is used by majority of the people.
2. Choose the Brand Ambassador which is having more followers in social networks.
3. Advertisements should be designed in an effective manner in social media.
4. By providing quick response to the customers can build strong relationships.
5. Social media is a backbone of marketing to create brand image.
6. Social media is responsible for the development of online applications.
7. Social media acts as the root cause for the development of media richness.
8. Social media marketing helps to promote sales effectively.
9. Social media marketing provides a good platform to communicate with large number of customers at a time.

### SUGGESTIONS

1. By using innovative advertisements we can attract more customers.
2. Organization should choose one popular channel to promote their products and services which in turn increases reputation of company.
3. The company should choose the brand ambassador who is very active and who has more followers in social networks (Facebook, twitter etc.).
4. The company must promote products as according to the present trend which leads to stand in the competition.

### CONCLUSION

Social media marketing is emerging rapidly to promote the products and services in online through various social networks like LinkedIn, Facebook, twitter, Instagram etc. Major benefit of social media marketing, which

results in increasing profit of your company, is improving sales, regardless if you own an online shop or you want to encourage people to visit your business a specific location. So basically the organizations must adopt social media strategies to sustain in the market. A job in social media is likely to be fast-paced and challenging, but it can be quite rewarding, monetarily and otherwise. If you know what kind of position to look for, social media could just be the source of your dream career.

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**A THEORETICAL APPROACH TO THE CONCEPT OF THE CLUSTER**

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**ABSTRACT**

*The main objective of this research is to provide a general overview of the concept of the cluster, through the review of theoretical-empirical studies and some proposed models as well as its importance as a strategy for regional development and its operation.*

*Keywords: cluster, regional development, functioning.*

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**1. INTRODUCTION**

There is no single formal definition about the concept of the industrial cluster. Some authors such as Porter (2003), Rosenfeld (1996), Altemburg (2001), Hoen (1999), among others, propose definitions regarding this concept, but the concept of the cluster goes beyond the networks developed by companies that operate in the same market of final goods, which are part of the same industry and which cooperate in certain areas, including strategic alliances. To approach the concept, it is necessary to analyze the theoretical approaches of the cluster, starting from the approach of classical economists such as Marshall (1890), the theory of industrial location of Weber (1929), the theory of industrial interactions and industrial districts. Becattini (1992) and the new economic geography of Krugman (1995), in addition to the competitive advantages of Porter (1990) among others.

Another of the key aspects is to place the cluster as a global or regional development strategy in the global and local context, due to which it allows to interrogate the impact through its analytical theoretical bases and study the success cases and their contributions to the economies local. To know the formation of industrial clusters it is necessary to know the value chains and identify the processes and the interrelated parts that compose it. Some key factors to identify a cluster are technological development, commercial linkages, cooperation between firms and, according to Porter, subcontracting (Corrales, 2007, page 171).

Many researchers agree that the cluster consists of a critical mass of companies, generally small and medium-sized, specialized in the same sector or related productive activities, located in a specific and relatively small geographical area. Other authors suggest that a cluster includes institutions that interact with companies that affect their competitive performance.

Finally, some others explicitly refer to the existence of collaborative relationships between all these actors and highlight the importance of social, historical, political and cultural factors that promote or hinder collaboration between actors

**2. CONCEPTUAL THEORETICAL BACKGROUND****A. Analysis of the concept**

This concept has its origins in the industrial districts of Alfred Marshall (1963) when he tried to analyze the reasons why industry emerges concentrated in certain localities in which he points out, that some elements that constitute industrial concentration: physical conditions, for example, nature of climate and soil, needs of local consumers, families and businesses, infrastructure (roads) and access roads (transport). This author emphasizes three aspects: mutual proximity of companies in an industrial district, which exchange information, new ideas and inventions; appearance of subsidiary activities or companies that reduce costs, and concentration of specialized labor (Garnica & Rivero, 2004, page 144).

To this Krugman agrees with Marshall. However, Krugman (1992) adds that other aspects to consider in the conformation and growth of an industrial belt are: increasing returns to scale, arbitrary and accidental components, and historical and cumulative phenomena. The convergence of these processes contributes to the integration of a specialized labor market (Garnica & Rivero, 2004, page 145). But it was Becattini (1992) who reused it to describe and analyze the success of industrial conglomerates in Italy in the modern era;



nevertheless, it corresponded to Piore and Sabel, (1984) through a Second Industrial Divide of 1984, to make known to the world the success of some regions of Italy through industrial districts (Corrales, 2007, pp. 186-187).

According to Vera (2007, pp. 303-306), a cluster is a sectoral and / or geographical concentration of companies that work in the same activities or in closely related activities, both backwards, towards suppliers of inputs and equipment, and forward and to the sides, towards processing and user industries as well as services and activities closely related to important and cumulative external economies, agglomeration and specialization due to the presence of producers, suppliers and specialized labor and services annexed to the sector and with the possibility of carrying out a joint action in search of collective efficiency.

For Porter cited in (Vera, 2007, page 306) the clusters are geographical concentrations of interconnected companies, specialized suppliers, service providers, related sector companies and related institutions that compete but also cooperate. In its character of critical masses of unusual competitive success in determined areas of activity, in an activity characteristic of all or almost all national, regional and even metropolitan economies, especially that of the most advanced countries. Not only applies to local geographic sectors but also to the national environment, an important fact is that, as there are rival companies within the cluster, this will promote innovation and the competitive development of firms.

While for Roldan (2019) a cluster is a geographical concentration of support institutions and companies that produce and complement each other in a specific field. Functionally, it is articulated in associative schemes with value network structures, with the main objective of improving its profitability and competitiveness. Another author who defines the cluster and is a pioneer in the new economic geography is Gala (2005, pp. 9-10), who in a general way can define the clusters as a group, geographically close, of interconnected companies and associated institutions in a particular field and linked by externalities of various types, which can be seen as processes in the sense that they can be considered a way of understanding how the economy works and organizes its strategies, as well as results, observing the clusters as a critical mass of firms interconnected geographically.

On the other hand, Krugman (1991) considers the cluster is a product of history and economies of scale propitious by the behavior of the market; for Scott (1986), clusters are the spatial consequence of the vertical disintegration of large companies; while for Harrison (1992), the cluster is constituted by companies specialized in one or more phases of the production processes, which leads to cooperation and to exchange tools and information to improve the collective processes of the regional industry. On the other hand, Storper (1992 and 1997), based on the findings of Piore and Sabel (1984), suggests that the clusters are the result of flexible specialization.

A simpler way to define it is the one proposed by Rosenfeld (1997) cited in the Regional Quantitative Analysis Research Group of the University of Barcelona (2005), a cluster is used very simply to represent concentrations of companies that are capable of producing synergies due its geographical proximity and the existence of interdependencies between them, despite the fact that their weight in total employment is not preponderant or even relevant.

It is necessary to consider that economic clusters do not only have to do with sectors and support institutions, but they have to do with them as much as they are more competitive due to the relationships they establish between them, this facilitates the exchange, potentiates the synergies and minimizes transaction costs. Altemburg adds that a cluster is an agglomeration of a significant number of companies in a defined geographical area that has a clear profile of specialization and in which the degree of division of work and interactions between companies is high (Garnica & Rivero, 2004). Then the clusters are in the majority networks, trans-sectorial networks that comprise complementary companies and specialized in a link or knowledge base in the value chain.

## **B. Theoretical approaches**

The first proposed approach is that of the classical economists who divide this approach into two basic currents: The Marshallian perspective or the theory of interaction and the industrial districts, exposed by Marshall (1890) and the theory of industrial location with contributions from Weber (1929) and Hoover (1937) later Krugman (1995) and Borja and Castells (1997).

On the one hand, the theory of industrial location and economic geography tries to explain why activities tend to be concentrated in certain areas and are not distributed randomly. It emphasizes the relative weight of the cost of transport in the final cost, which would explain why some activities are usually located close to natural

resources, close to markets and others anywhere, in which benefits are produced and called economies of agglomeration and on the other the theory of interaction aims to explain that the most propitious conditions for there to be learning are based on interaction. What, according to this approach, would explain the success of the industrial districts. Likewise, the interaction accelerates the dissemination of knowledge and innovation, which is a social good internalized by all the companies in the district (Garnica & Contreras, 2007, page 311).

The theory of cluster growth and sectoral agglomeration in turn attempts to explain the development of clusters, whether or not they are based on natural resources. First, these new theories have demonstrated the importance of the accumulation of a specific resource to explain economic growth (Garnica & Rivero, 2004, page 312).

The new economic geography explains why certain activities agglomerate in a certain region. The decisions of firms' locations depend on the interrelation between production costs and the ease of access to markets (of goods, factors, etc.). If transport costs are reduced, then the sites of the firms are highly sensitive to the differentials of productive costs. On the other hand, if the above costs are high, companies will find themselves more linked to certain given markets and, consequently, they are less sensitive to disparities in production costs. It promotes growth through the innovation of economic activities, which in turn benefits a reduction in the costs of innovation and, consequently, a higher growth, so that a circular causality is generated between growth and geographical concentration of economic activities (Garnica & Contreras, 2007, page 313).

Another approach is that of the industrial districts and the collective efficiency in which two mechanisms that lead to the formation of this are distinguished, on the one hand, are the positive external economies that are the savings that a company can make due to the actions of other actors. These arise when the actors cannot incorporate all the costs and benefits of an activity and on the other side is the joint action that acts as a deliberate measure, by including the association with other stakeholders to ensure the interests of the union, exchange information or contract a service that shares the costs. This action can take place directly between two or more companies or comes through trade associations and promotion institutions (Vera, 2007, page 315).

Within the theoretical approaches, the one of the competitive advantage of the nation stands out that according to Porter (1990) it indicates that the competitiveness of a nation depends on the capacity of its industry to innovate and improve. The competitive advantage is created and maintained through a very localized process influenced by very characteristic of a nation, such as its values, culture, economic structure, institutions and history, and for this the theory of resources and capabilities is taken into account. Because in the clusters a collective strategy originates, which recognizes the existence of a strategy of a strategic scope superior to that of the cooperation and the business unit and that would be shared by the organizations of the same field or niche, this when referring to a cooperative strategy on the part of the companies involved and that share in such a way resources and specialization.

The following is a summary of the various types of approaches (See Table 1):

**Table 1. Cluster theoretical approaches**

<b>Theoretical approach</b>	<b>Author</b>	<b>Description</b>
New Economic Geography	P. Krugman	Prepared from A. Marshall's pioneering contributions: The agglomerations result from the cumulative action induced by the presence of local external economies. External economies are incidental and the spatial structure of the economy is determined by processes of invisible forces. There is little space for public policies.
Business economics	M. Porter	Emphasizes the importance of geographically restrictive external economies, concentration of highly specialized skills and knowledge, institutions, competitors, related activities and sophisticated consumers, also in international competition. Local strategies are part of the business strategy. The government must provide education, physical infrastructure and rules for competition.
Regional Economy	A. Scout	Economic geography and industrial performance are interrelated. There is an endemic tendency in capitalism in the direction of local clusters that are constituted in intensive regional economies and in transactions that, in turn, are linked

		by structures of dispersed interdependence. The construction of competitive advantages lies in the extra market coordination and public policies.
Innovation economy	D.B. Audretsch	Local proximity facilitates the flow of information and the dimension of knowledge. Economic activities based on new knowledge are likely to be grouped into geographical regions.
Small businesses and industrial districts	H. Scmitz	In addition to the incidental or spontaneous local external economies, there is a strength derived from the consistent cooperation between private agents and the public sector. The concept of collective efficiency combines the spontaneous effects (unplanned) and those consciously sought (planned), and is defined as the competitive advantage derived from local external economies and joint action.

Source: recovered from (Roldan, 2019, page 14).

Beyond the reasons for the initial location of a cluster, once the specialization pattern is established, cumulative trade gains are generated. There is a strong path dependence in the patterns of specialization and commerce. Commerce and location are integrated. When an industry has a leading development within a region, that region will continue to specialize in that industry Quintanar and Gatto (1992), the Italian industrial districts were characterized as small and medium industrial firms with successful recent experiences for their dynamic development and highly competitive internationally that they managed to harmonize (Gala, 2005).

According to Rebelloti (1995) this model was constructed from the presence of four main characteristics. In the first place, it was constituted by small and medium-sized companies that were geographically concentrated and specialized sectorially. Second, they established ties back and forth based on the exchange of goods, people and services both by means of market mechanisms and outside of it. Third, these companies were characterized by having common cultural and social backgrounds that favored the creation of codes of conduct both explicit and implicit. Finally, they were characterized by the presence of a network of local institutions, both public and private, that supported economic agents within the cluster (Gala, 2005, page 15).

The focus of global value chains looks at the recent changes in production systems, distribution channels and financial markets, which gained speed as a result of the globalization of product markets and the spill of IT technologies, suggest that it is necessary pay more attention to external linkages. In this regard, the approach of global value chains allows to account for the activities that occur outside the cluster and, above all, to understand the meaning of the relationships of local producers with the main external actors. This approach is nourished by two theoretical sets (Pyke, 1998, Helmsing, 2001 and Nadvi, 1995).

On the one hand, it uses the literature on industrial clusters to account for the role of local institutions and networks in strengthening the conditions for the upgrading of local producers (Gereffi and Kaplinsky, 2001). On the other, it applies the literature on value chains to emphasize how the role of global buyers and the way of organizing the value chain define the opportunities for modernization of local companies. This model, as developed by Pietrobelli and Rabelloti (2004), is based on four elements: value chains, governance, upgrading and tactical knowledge (Gala, 2005, page 17).

On the other hand, Gordon and McCann (2000) suggest three basic types of industrial cluster: 1) The classical model of pure agglomeration, based on Marshall's ideas and characterized by the absence of cooperation between agents, free membership and the importance of the co-location. 2) The model of the industrial complex, characterized by the existence of stable and identifiable relationships between companies, which give rise to a closed club, and the need to share the same location in space. 3) The model of the social network, based on the strength of social interactions between companies, in which personal trust plays a preponderant role and where membership is not completely free although it is not a completely closed club.

Spatial localization is not essential, although it favors the establishment of the bonds of trust that sustains the network (Regional Quantitative Analysis Research Group of the University of Barcelona, 2005). Thus, we see how both the sectoral dimension and the geographical dimension play a fundamental role in the definition, although the problem arises when it comes to delimiting both dimensions. Although for this Porter mentions that the delimitation of a cluster is often a matter of nuance. Involving a creative process that must be determined by knowledge of the links and complementarities between companies and institutions (Figure 1).

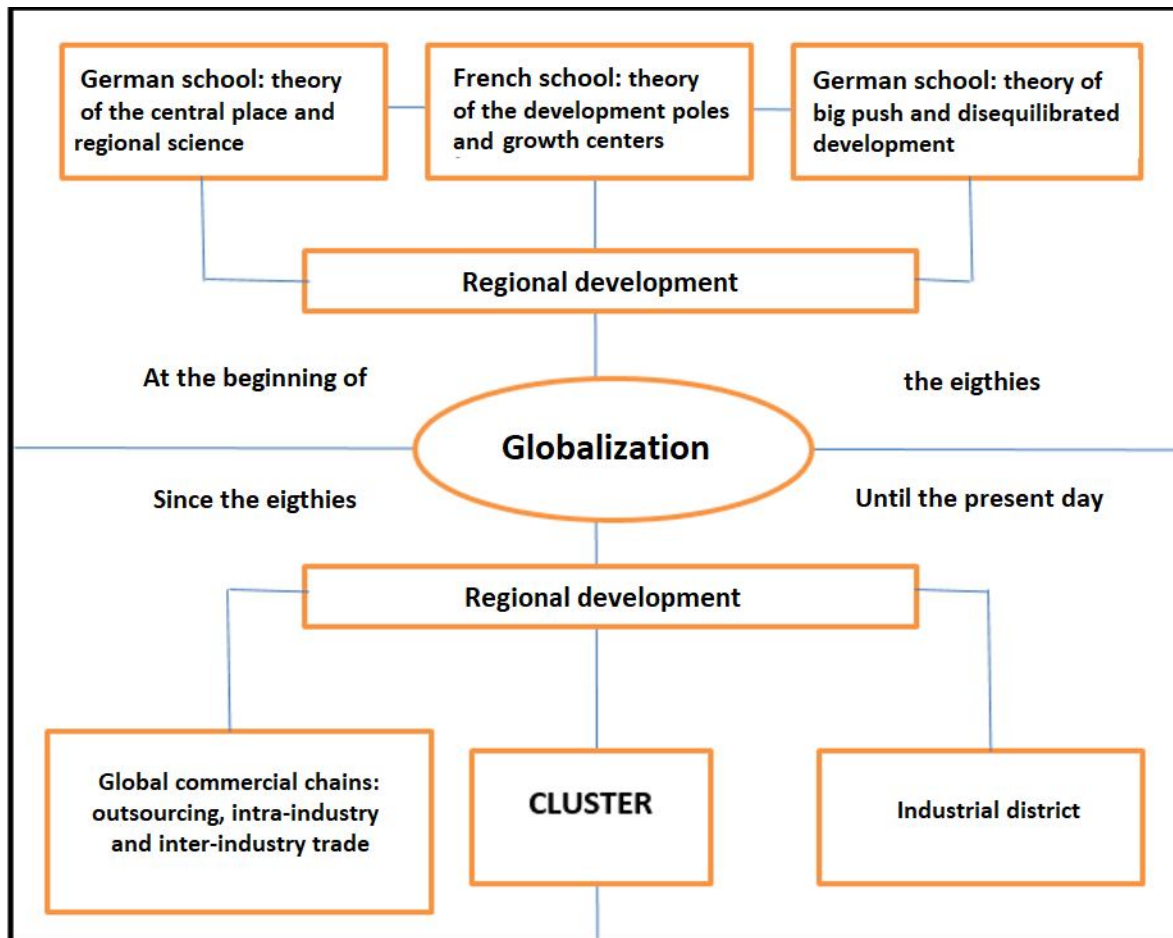


Figure 1: Table 2. Theoretical approaches and cluster development  
 Source: own elaboration from (Garnica & Contreras, 2007).

**3. CLUSTER AS DEVELOPMENT STRATEGIES**

For Latin America, Altenburg and Meyer-Stamer (1999) propose a typology of clusters with three different characteristics: those of survival, composed of micro enterprises and small businesses that generate low quality consumer products for local markets, have a low degree of labor force specialization; the clusters that produce for the massive consumption, that prospered in the stage of substantive industrialization of imports, whose production destined it to the national market; and the clusters that supply transnational corporations (Corrales, 2007, pp. 190-191):

- A. The survival clusters were developed in poor areas and are dedicated to the manufacture of shoes, furniture, clothing, among other products and services. Altenburg and Meyer-Stamer (1999) and Altenburg (2001) found imitation practices among their promoters, low levels of education and trust, as well as predatory and opportunistic attitudes.
- B. The clusters that produce massively to the national market are constituted by medium and large companies with good administrative organization and technological capacity. These clusters lack technological innovation, with the exception of their suppliers, who buy automated machinery with state-of-the-art technology.
- C. The clusters formed around the transnational companies carry out a set of activities more technologically complex, such as the assembly and manufacture of parts for the electronics and automotive industry. Given the technological level with which they operate, there are many barriers to the entry of local companies as suppliers or subcontractors.

Another way to develop a cluster is through sector analysis Porter (1998) cited in (Garnica & Rivero, 2004, pp. 145-146) which is to understand the competition in the sector. A sector (manufacturer or service) is a group of competitors that manufacture products or provide services and compete directly with others. Sectors differ from the nature of competition and not all sectors offer the same opportunities to achieve sustained profitability. The second essential issue in the strategy is the positioning within the sector. Some positions are more profitable than others, regardless of what the average profitability of the sector may be.

Although it is worth mentioning that according to (Garnica & Rivero, 2004) there are studies mentioning that the sectoral analysis is limited because it concentrates on quantitative or statistical aspects, therefore, qualitative interconnections linked to knowledge flows arising between inter-network networks are neglected. business, focuses only on groups of companies producing similar final goods, are not considered links that the company can create with customers, suppliers and specialized institutions, there are doubts about whether the companies that make up the sector can establish cooperation ties with their rivals and seeks diversity in existing industrial trajectories, rather than synergies.

A central element to consider the analysis of the cluster is that of inter-company networks. A network is defined as: a set of explicit, selected links with preferential patterns that occur jointly of companies based on complementary advantages and market relations, with the static and dynamic reduction of uncertainty as the main goal (Freeman, 1991: 501) cited in (Garnica & Rivero, 2004, page 150), where this type of networks arises for several reasons:

- a) Need to coordinate processes of productive and technological specialization of companies
- b) Rapid and widespread introduction of new information and communication technologies
- c) Rediscovery of the influences of static and dynamic externalities) in the different members of a group.
- d) Decrease in the trend towards vertical integration and boom in outsourcing processes

Social and institutional innovations that contribute to the solution of complex socio-economic problems, that neither the market nor the company can offer an adequate response

An important element for the emergence of the cluster is cooperation and this is achieved through networks and trust ties, because this reduces transaction costs and generates linkages (see table 3).

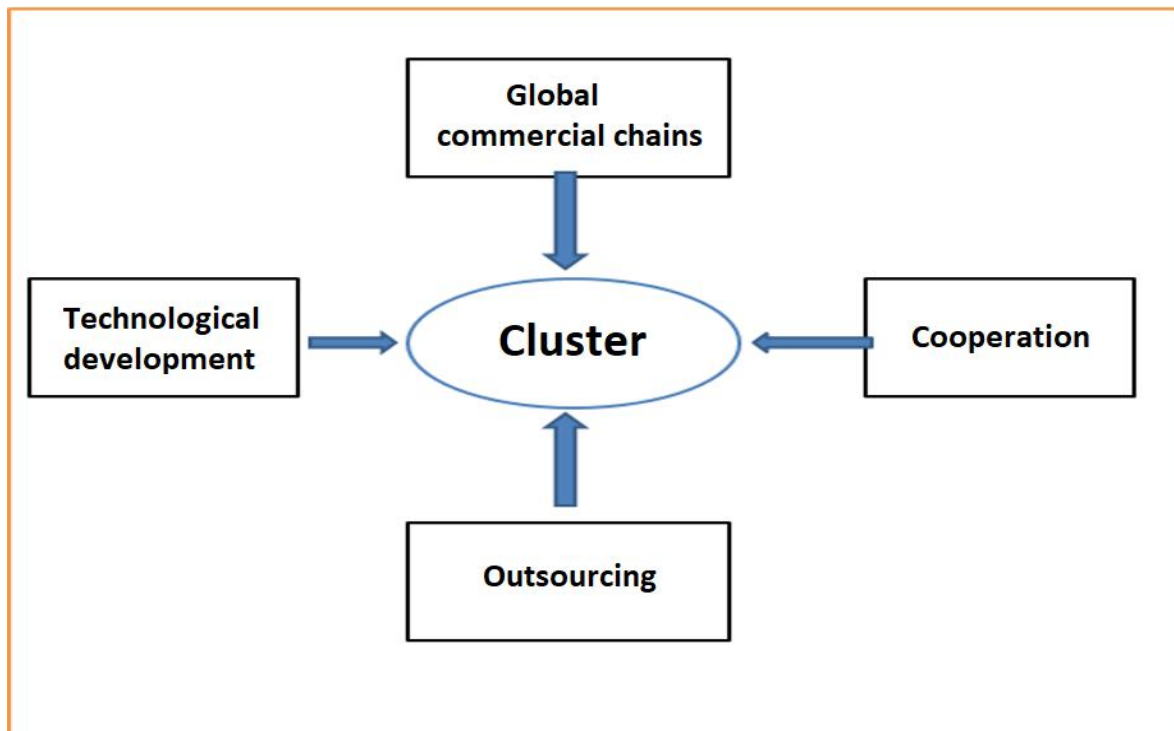


Table 2. Determining factors for the operation of the cluster  
Source: own elaboration from (Corrales, 2007).

Clusters are not the magic formula for economic growth and sustainable regional industrial development, but in several parts of the world they have yielded results and generated economies of scale. The proximity between companies and the establishment of institutions and processes to support industries within a specific geographical area has advantages. Some of them include the proximity of raw materials and markets, a constant supply of skilled labor and the support of institutions and government. There are also elements that can hinder the growth of geographically agglomerated companies, the model of development through clusters also has considerable disadvantages (Martin and Sunley, 2003, Pacheco-Vega, 2004, Palazuelos, 2005). The negative aspects include the increase in competition between companies (predatory behavior), both in the aspect of final customers and in terms of the availability of skilled labor (Pacheco-Vega, 2007).

The popularity of the clusters is due not only to the Italian literature and its analyzes of the economic boom and the industrial regional development of the Third Italy (Becattini, 2002, Grandinetti and Tabacco, 2003, Paniccia, 1998, Rabbellotti, 1995), but also to the interest in Saxon literature by industrial groupings (Feldman et al., 2005, Harrison, 1992, Porter, 1998, 2000, Quadrio-Curzio and Fortis, 2002) (Pacheco-Vega, 2007). The spatial distribution of the cluster feeds the commercial and non-commercial relationships and also generates resource supply indirectly to some sub-sectors of the related economy. The emergence of a cluster is part of the process of restructuring the economy in the focused delegations of a city (Mercado & Moreno, 2011).

#### 4. CONCLUSIONS

Although all the theoretical approaches to the concept are relevant, we can conclude that several authors coincide in the assumptions and some parts of the conceptual definition subtracting a simple definition is that the cluster is a group of companies that perform in the same activities or activities closely related both backward, forward and sideways. The cluster according to the authors cited can be a natural or artificial, natural regional development strategy like the one that has already been formed due to supply and demand and the artificial ones created through public policies to encourage the development of a region.

Although several theoretical approaches have been analyzed, it is pertinent to mention that all of them subscribe to this topic of relevance, the cluster cannot be defined by means of a focal lens or through a perspective.

For future empirical research it is necessary to start from the theory because there are empirical studies that do not give great value to the theory, this being the support of knowledge generated through the application in case studies.

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**SPECIAL ISSUE ON “DIGITAL TRANSFORMATION AS A SPRINGBOARD FOR PRODUCT, PROCESS AND BUSINESS INNOVATION”**

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**ABSTRACT**

*The aim of this paper is to provide insights regarding the state of the art of Digital Transformation, and to propose avenues for future research. Using a systematic literature review of 206 peer-reviewed articles, this paper provides an overview of the literature. Among other things, the findings indicate that managers should adapt their business strategy to a new digital reality. This mainly results in the adaptation of processes and operations management. Scholars, for the other side, are also facing challenges, as prior research may not have identified all the opportunities and challenges of Digital Transformation. Furthermore, while the Digital Transformation has expanded to all sectors of activity there are some areas with more prospects of being developed in the future than others. Keywords: Digital Transformation! Business strategy! Processes Operations! Systematic literature review*

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**INTRODUCTION**

With the rise of new digital technologies, e.g., social networks, mobile, big data, etc., firms in virtually all industries domains are conducting multiple initiatives to explore and exploit their benefits. This frequently involves transformations of key business operations and affects products and processes, as well as organizational structures, as companies need to establish management practices to govern these complex transformations. Thus, the society as a whole is facing a fast and radical change due to the maturation of digital technologies and their ubiquitous penetration of all market. To add to the increased demand from customers, companies are facing ever tougher competition due to globalization and putting pressure to go digital before others do, seeking to survive and attain competitive advantages.

The aim of this paper is to provide insights regarding the state of the art of Digital Transformation, and to propose avenues for future research. Using a systematic literature review of 206 peer-reviewed articles, this paper provides an overview of the literature. Among other things, the findings indicate that managers should adapt their business strategy to a new digital reality. This mainly results in the adaptation of processes and operations management. Scholars, for the other side, are also facing challenges, as prior research may not have identified all the opportunities and challenges of Digital Transformation. Furthermore, while the Digital Transformation has expanded to all sectors of activity there are some areas with more prospects of being developed in the future than others.

Recent years “born digital pioneers have grown into powerful behemoths, while companies that long dominated their industries found their traditional value proposition under threat. However, despite the multiplicity of technological novelties and recipes for their implementation, whether in business, public governance and private life, real Digital Transformation is taking much longer and facing more difficulties than it has been expected

Unfortunately, there are many recent examples of organizations that have been unable to keep pace with the new digital reality: examples include the bankruptcy of movie-rental Company Blockbuster, largely resulting from those firms’ inability to rapidly develop and implement new digitally-based business models. Successful Digital Transformation requires an organization to develop a wide-range of capabilities, which will vary in importance depending on the business context and the specific organization’s needs.

Digital technology needs to become central to how the business operates, and organizations effectively need to re-think and possibly re-invent their business models in order to remain competitive. This article differs from previous literature reviews as it strictly focuses on the concept of Digital Transformation. Several concepts have been advanced to label Digital Transformation (e.g. digitalization, digitation) and whereas they are often used indistinctively in the literature, researchers continuously try to determine their boundaries to avoid overlaps. We felt that it would be not prudent to define several terms in such a short paper; while, at the same time, there was a need to draw attention to Digital Transformation, as few literature reviews were conducted when compared, for instance, with the Digitalization term. Henriette et al. conducted a similar systematic literature review, but used a different database (Scopus).

Their work also focuses on the vulnerabilities and opportunities of digital transformation, but different contributions arise by emphasizing the impact of digital capabilities on the digital transformation and the

explanation on how digitalization transforms business models, operations processes and user experience. Thus, based the literature review, our paper proposes a definition of Digital Transformation, delivers a general overview of the literature, along with some suggestions for future research. To this end, the next section provides a brief description of the methodological approach and is followed by the literature review. We end with some concluding remarks.

Digital Transformation has always had a strong connection to the industry, and is currently re-experiencing huge changes, as the industry 4.0 represents the coming fourth industrial revolution. It focuses on the end-to-end digitization of all physical assets and integration into digital ecosystems with value chain partners. Another significant challenge is to integrate “digital “into the DNA of the business models. This is essential for success of any company and it is becoming a critical management issue. As with any IT-enabled change, it is not enough to bring the IT to the organization; the Digital Transformation success depends on process and operations management changes. To accomplish such management, people must be trained in a change process that takes into account the unique challenges presented by IT.

A digital revolution is positively developing the digital and standardized working environments. Some workplaces are being virtualized or remotely controllable, which requires new communications skills and knowledge of virtual worlds.

Socially, customers are also acquiring new competences, to be able to engage with digital organizations, in order to subsist in the Digital Era. The digital Era is not only driving innovation in the enterprise sector, it seems to influence developments in the public sector as well. The governmental digitalization is one of the promising themes, with more prospects of being developed in the future. There is also a growing interest in the healthcare sector , as there has been a significant research increasing on the digitalization of the healthcare over the past last years. Although we acknowledge the existence of maturity models in this field, having been developed primarily by practitioners (e.g. IDC maturity model), the academic community has not yet elected a consensual maturity model for Digital Transformation that can be applied.

Table 7. Qualitative Analysis to all sectors of activity. Therefore, we propose an in-depth research on the distinction of associated terms to Digital Transformation, and a maturity model to determine the Organizational degree of Digital Transformation.

In recent years, digital transformation has deeply influenced people, businesses and systems (Huarng et al., 2015; Galindo-Martín et al., 2019). This revolution is changing the way companies run business, develop relationships within and across ecosystems (e.g. with consumers, suppliers, Universities) posing new managerial opportunities and challenges (Verma et al., 2012; Bresciani et al., 2018; Scuotto et al., 2019) It is now evident how innovative companies have revolutionized industries, such as transport, accommodation and music through innovative business models that leverage advanced technologies. Nevertheless, digital transformation is not limited to particularly innovative businesses, digital start-ups and high-tech giants, but is rather a process that embraces companies of all sizes and operating in the most diverse industries.

On the one hand, the existing literature has emphasized the various technological tools and paradigms that are revolutionizing the way companies do business, such as big data, artificial intelligence, 4.0 machines, 3d printers, social media networks, etc. On the other hand, a stream of studies has tried to explore the impact of digital transformation on different business areas business models, business performances and required capabilities. For example,) recently proposed a framework that disclose the relationship between business model innovation, lean start-up approaches and agile development in the context of digital entrepreneurship. Ferraris et It showed that firms that developed higher big data analytics capabilities increased their performances and that knowledge management capability plays a significant positive moderator role. Therefore, the interplay between information technology systems and knowledge management processes and tools can speed up the digitalization journey. Explored the specific organizational capabilities that allow firms to gain advantage from social media along the innovation process. Despite this, we still know very little on how business may implement digital innovative strategies for growth and scale quickly and efficiently.

In a nutshell, this transformation represents a constantly evolving issue and therefore there are still many answers to be provided to management. For example, from a business model perspective, it is necessary to explore how digital transformation and specific technologies can influence the key components of the business model, namely value creation, value configuration and value capture. Also, it is still vague how and which forms of dynamic capabilities should be developed by firms to embrace the digital innovation, in which contexts (e.g. smart cities) and in relation to which kind of growth strategy (e.g. internationalization, diversification, vertical or horizontal integration).

Thus, this special issue aims to explore how the current digital transformation is changing the way in which companies do business, with particular reference to innovation processes and business model transformations.

**Some research questions can link to the following:**

- What is the impact of digital transformation on value creation (value proposition)?
- What is the impact of digital transformation on value configuration (activities and resources)?
- What is the impact of digital transformation on value capture (revenue model and cost model)?
- Which are the required capabilities to embrace a successful digital transformation?
- Which capabilities are critical in the development of digital innovation?
- How knowledge management systems and tools can have impact on digital transformation processes?
- Which capabilities are critical in exploiting internationally the benefits of digital technologies?
- Which “digital strategy” should be implemented according to the corporate and/or business strategy designed?
- Which kind of relationships should be developed across and within innovation ecosystems to nurture digital approaches?
- How and to what extent is the digital transformation changing the innovative processes of firms, in terms of new products and services?
- Concluding Remarks
- Although Digital Transformation is popular among practitioners, this term tends to be neglected in the scholarly literature, and so we decided to conduct this literature review.
- The aforementioned argument is well evidenced if we conduct a search in ISI database using both terms “Digital Transformation” and “Digitalization”. We present the conclusion from two different perspectives. First, from the cynic viewpoint, Digital
- Transformation may be considered as a management fashion or as the reincarnation of past IT-enabled change initiatives with new outfits. IT-enabled change resurfaced a few years ago through the business process management movement. As business process management seems to be losing interest, a new buzzword to capture a renewed interest from managers, consultants and software companies.
- On the other hand, enthusiasts may argue that Digital Transformation includes novel elements that deserve due attention and pose interesting challenges for future research. In particular, the results support that managers should adapt their business strategy to the digital reality, by integrating new technologies in their business models, which raises the importance of processes and operations management topic. Scholars, at the other side, are required to conduct further research to address DT opportunities and challenges.

This paper has some limitations. As this literature review is limited to a single term, it is possible that some relevant articles are missing. A truly comprehensive approach to produce a systematic literature review also requires the use of more than one digital repository; therefore, by analysing other repositories besides ISI, the results obtained might be different; however, given that our priority is transparency and easy reproduction of results this choice may be acceptable when comparing the pros and cons.

We also believe that the methodology used in this article can be reproduced with other terms. For this reason, we will carry out a new research so that we can compare different terminologies. Furthermore, ISI database is constantly being updated with new peer-review articles. Finally, it should be noted that due to space limitations, this article does not list all the references.

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**DIGITAL INDIA: A CHANGING SCENARIO****Manoj Kumar Meet<sup>1</sup> and Prof. (Dr.) Raghunandan Prasad Sinha<sup>2</sup>**Research Scholar<sup>1</sup> and Dean<sup>2</sup>, Department of Commerce, B.R.A. Bihar University, Muzaffarpur, Bihar

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**ABSTRACT**

Software constitutes the central nervous system of technologies driving digitalization. To harness the true power of digitalization, all businesses need an expanding pool of skilled software developers. The digitized consumers (those equipped with smart phones, tablets and other data generating devices) play a central role in enterprises' efforts to generate disruptive growth from digitalization. Consumers' use of such devices enables companies to capture larger and more diverse volumes of data about their customers. For the speedy growth of digitization in India, Prime Minister launched the very ambitious "Digital India" campaign on 1 July 2015. The Indian market is expected to attract 155.6 million smart phone shipments in 2017, accounting for 10.3 percent of the worldwide smart phone market. Mobile data traffic will reach 900 pet bytes per month in 2017, up from 15 in 2012 and online shopping for physical goods in India will reach US\$8.5 billion by early 2017, and the number of online shoppers will more than double to 40 million. Though there are varieties of challenges to the digital India program, which need to be giving more focus for undisrupted growth of digitalization in India.

*Keywords: Digitalization, Smart Phones, Indian Market, Digital India, Mobile Data.*

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**INTRODUCTION**

Digitization is a process of conversion of analog information in any form to digital form with suitable electronic devices, so that the information can be processed, stored, and transmitted through digital circuits, equipment, and networks. Text and images can be digitized. Similarly, a scanner captures an image and converts it to an image file, such as a bitmap. An optical character recognition (OCR) program analyzes a text image for light and dark areas in order to identify each alphabetic letter or numeric digit, and converts each character into an ASCII code. Audio and video digitization uses one of many analog-to-digital conversion processes in which a continuously variable (analog) signal is changed, without altering its essential content, into a multi-level (digital) signal. The process of sampling measures the amplitude (signal strength) of an analog waveform at evenly spaced time markers and represents the samples as numerical values for input as digital data. Digitizing information makes it easier to preserve, access, and share. For example, an original historical document may only be accessible to people who visit its physical location, but if the document content is digitized, it can be made available to people worldwide. There is a growing trend towards digitization of historically and culturally significant data. According to an article in The Guardian in March 2007, if all spoken language since the dawn of time were digitized, it would consume five exabytes of storage space. Total digital information, in 2006 was estimated at 161 billion exabytes. Email alone made up six exabytes of that figure.

**DIGITAL INDIA**

Digital India is a campaign launched by the Government of India to ensure that Government services are made available to citizens electronically by improving online infrastructure and by increasing Internet connectivity or by making the country digitally empowered in the field of technology. It was launched on 1 July 2015 by Prime Minister Shri Narendra Modi. The initiative includes plans to connect rural areas with high-speed internet networks. Digital India has three core components.

- The creation of digital infrastructure
- Delivering services digitally
- Digital literacy

**MAJOR TARGETS OF PROGRAM**

1. To create a digital infrastructure as a utility to every Indian citizen. This includes providing high-speed internet, mobile phone and bank account enabling participation in digital & financial space, shareable private space on a public cloud, and creating a safe and secure cyber space.
2. The initiative also aims at seamless integration across departments/jurisdictions, and ensuring availability of services in real time from online and mobile platforms.
3. The programme aims to take digital literacy to the next level, and will focus on finding ways to encourage people to opt for cashless financial transactions.

Here are some of the projects and products, which are launched and are ready for deployment as part of the Digital India initiative:

- Digital locker system to minimize usage of physical documents and enable their e-sharing via registered repositories.
- MyGov.in as an online platform to engage citizens in governance through a "Discuss, Do and Disseminate" approach.
- Swachh Bharat Mission Mobile App to achieve the goals set by this mission.
- e-Sign framework to allow citizens to digitally sign documents online using Aadhaar.
- E-Hospital system for important healthcare services such as online registration, fee payment, fixing doctors' appointments, online diagnostics and checking blood availability online.
- National Scholarship Portal for beneficiaries from submission of application to verification, sanction and disbursal.
- Digitalize India Platform for large-scale digitization of records in the country to facilitate efficient delivery of services to the citizens.
- Bharat Net program as a high-speed digital highway to connect all 250,000 gram panchayats of country -- the world's largest rural broadband project using optical fiber.
- BSNL's Next Generation Network to replace 30-year old telephone exchanges to manage all types of services like voice, data, multimedia and other types of communication services.
- BSNL's large scale deployment of Wi-Fi hotspots throughout the country.
- Broadband Highways' as one of the pillars of Digital India to address the connectivity issue while enabling and providing technologies to facilitate delivery of services to citizens.
- Outsourcing Policy to create such centers in different north-eastern states and in smaller towns across the country.
- Electronics Development Fund to promote innovation, research and product development to create a resource pool within the country as also a self-sustaining eco-system of venture funds.
- National Centre for Flexible Electronics to promote research and innovation in the emerging area of flexible electronics.
- Centre of Excellence on Internet on Things (IoT) as a joint initiative of the government agencies and private institutions such as Nasscom.
- To make Post Offices multi-service centers.
- To connect all schools with broadband and free Wi-Fi

### **INDIAN DIGITAL TALENT**

Software constitutes the central nervous system of technologies driving digitalization. To harness the true power of digitalization, all businesses need an expanding pool of skilled software developers. When it comes to talent, Indian enterprises have a reason to cheer. In 2013, the United States led the world in software developers, boasting about 3.6 million such workers in the nation's labor force. India had about 2.75 million. But by the end of 2017, India will have 5.2 million developers, a nearly 90 percent increase, versus 4.5 million in the US, a 25 percent increase. According to Oxford Economics, a demographic bulge accelerating economic growth and technology-enabled training will enable India to record the fastest annual talent-pool growth among developed and key emerging markets including Brazil, China, Indonesia and Turkey. India's pool of college-educated talent is expected to exceed that of China and many other major emerging markets by 2017, reaching about 45 million at the end of 2021.

Clearly, Indian consumers and businesses are increasingly coming online – this time with mobile telephony as a platform enabling them to interact anytime and anywhere. Within India, a new layer of connected intelligence is augmenting employees' skills, automating processes and incorporating machines into consumers' and clients' lives. For consumers, this means new levels of empowerment. They can get information about anything, anytime; can interact with each other and with companies in new ways; and can influence the quality of their own experiences. For organizations, the online revolution positions them to forge new connections with

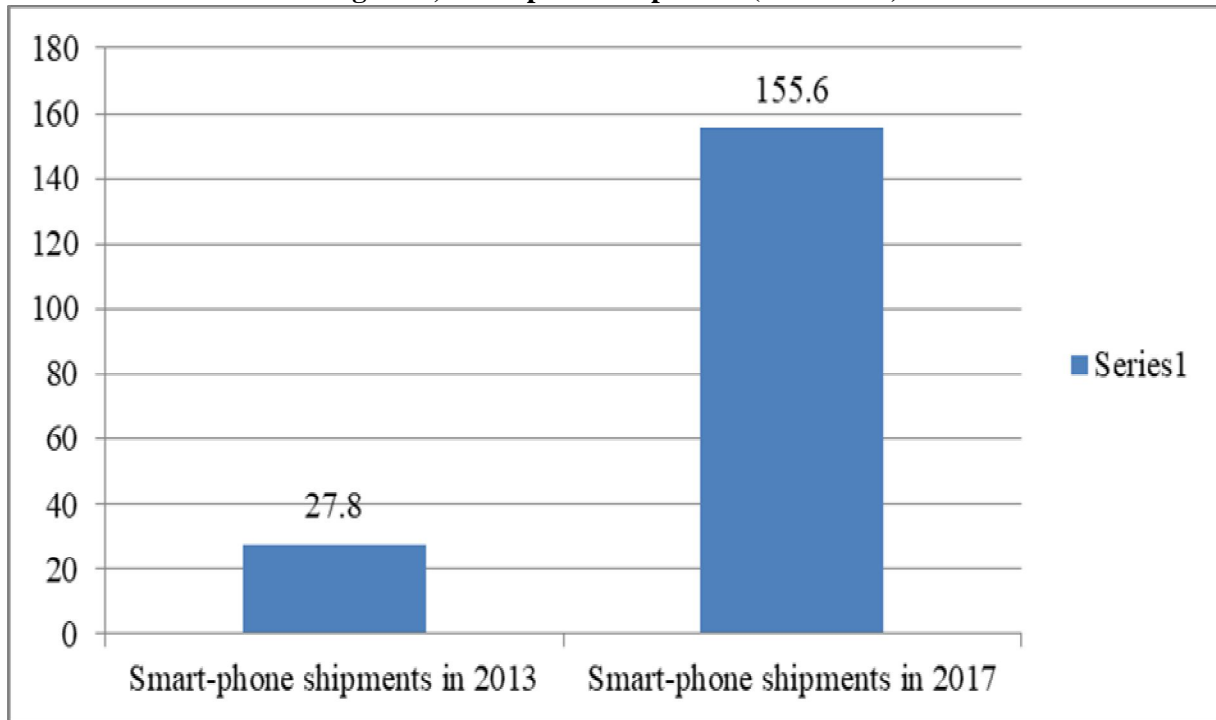
customers and ecosystem players. It also enables them to get faster and more intelligent responses from machines as well as employees.

**DIGITIZED INDIAN CONSUMER**

Digitized consumers, those equipped with smart phones, tablets and other data generating devices play a central role in enterprises’ efforts to generate disruptive growth from digitalization. Consumers’ use of such devices enables companies to capture larger and more diverse volumes of data about their customers. It also gives consumers an opportunity to help in shaping a company's strategies and growth. Both these gains help businesses deploy digital technologies to extract more insightful and actionable results from customer related data.

Digitalization of consumers in India is reflected in IT spending trends. IT spending in India is projected to reach US\$92.9 billion by 2017, up from US\$67.4 billion in 2013, according to research firm Gartner. In addition, by 2017, the devices market will emerge as the largest segment of IT spending nationally. Growth within this segment will be driven by sales of mobile phones, which will count among the fastest-growing sub-segments within India’s IT industry. IDC predicts that the Indian smart phone market will witness growth levels higher than any other top markets in the world—as much as 460 percent during 2013-2017 alone. The Indian market is expected to attract 155.6 million smart phone shipments in 2017, accounting for 10.3 percent of the worldwide smart phone market. **(Figure- 1)** In India, smart-phone shipments are expected to grow exponentially between 2013 and 2017.

**Figure-1, Smartphone Shipments (in millions)**

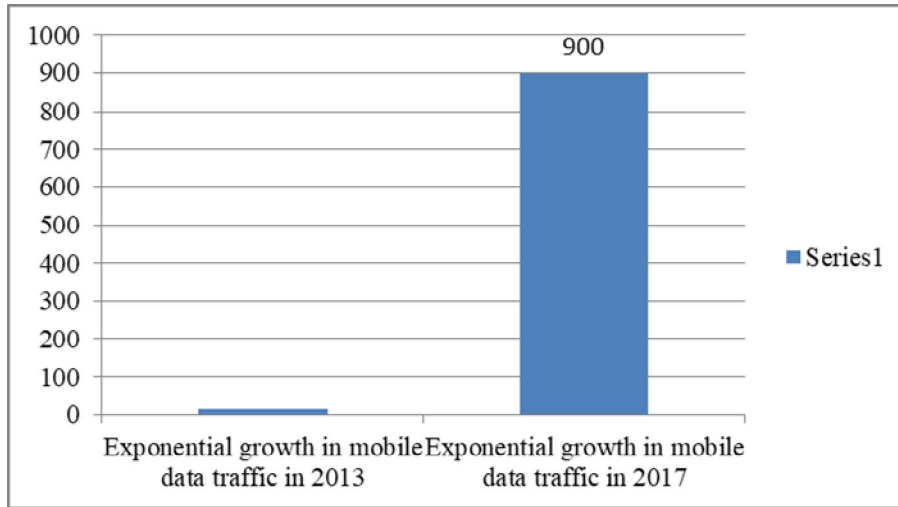


Source: IDC

**DIGITAL DATA GROWTH**

Growth in digital data is vital for digitalization, because companies can use digital technologies such as analytics to glean valuable insights from such data. The larger the volumes of data, the greater the likelihood that companies can capture useful insights. Exponential digitization of the Indian consumer will lead to a dramatic increase in national digital data traffic. Consider: sales of 3G SIM cards in India are expected to grow from 35 million units in 2012 to about 272 million by 2017 as high-end 2G users opt for service upgrades. With increased market penetration of smart devices and advances in networks, mobile data traffic is expected to achieve a compound annual growth rate (CAGR) of 127 percent from 2012 to 2017 in India. Mobile data traffic will reach 900 pet bytes per month in 2017; up from 15 in 2012 **(Figure-2)** IP traffic in India will see a CAGR of 44 percent during 2012-2017, the highest growth rate across the globe. Internet traffic in India will reach 2.5 million terabytes per month in 2017, up from 393 billion terabytes per month in 2012. Starting in 2017, India will become home to the world’s largest population of Face book users and will emerge as the second-largest mobile broadband market. These developments will make it easier for companies based in India to swiftly gather high-quality data and generate business insights from it.

**Figure-2: Rapid penetration of smart devices will drive exponential growth in mobile data traffic**  
Mobile Data Traffic in India (in Petabytes)

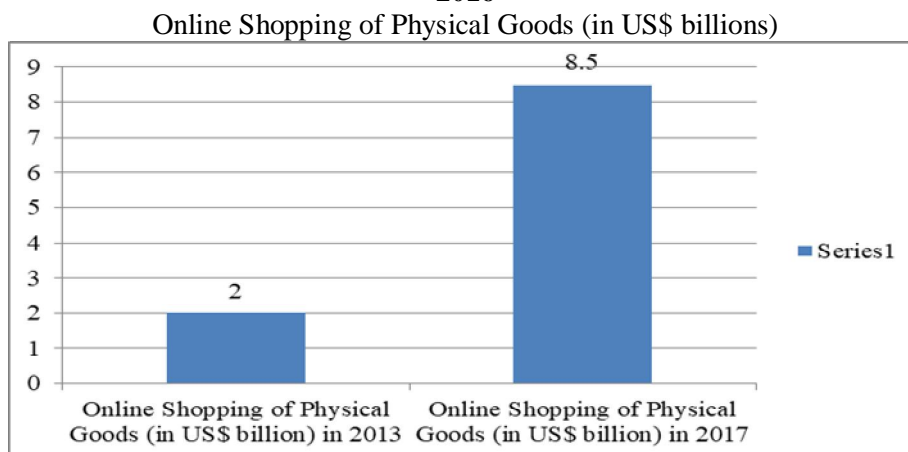


Source: Cisco Visual Networking Index Forecast 2012-2017

**E-COMMERCE IN INDIA**

Indian consumers are hungry than ever for e-commerce. A recent study by the Associated Chambers of Commerce and Industry of India (ASSOCHAM) pegged the Indian e-commerce industry at US\$16 billion in 2013. This number (equivalent to the gross state domestic product of a few small states in India) is growing at about 88 percent per year — driven by only 9 percent of the current online population, which totals around 150 million. Clearly, e-commerce still has significant room to grow. With more than 300 million Indians expected to go online by 2017. India could become one of the top three fastest-growing businesses-to-consumer (B2C) e-commerce markets in the Asia Pacific. According to a study by Accel Partners, revenues from online shopping for physical goods in India will reach US\$8.5 billion by early 2017, and the numbers of online shoppers will more than double to 40 million. **(Figure-3)** Mobile shopping is expected to clock a 150 percent growth rate during 2013-2016. Desktop-based or web-based platforms will give way to full-fledged mobile versions. According to some industry leaders we interviewed, e-commerce will be driven by “mobile-only transactions” in the future.

**Figure-3: Online shopping for physical goods in India is expected to grow substantially between 2013 and 2016**



Source: Accel Partners

**CHALLENGES TO DIGITAL INDIA**

In a survey conducted by Accenture, it was found that many businesses confuse SMAC adoption with digitalization. SMAC: social media, mobility, analytics and cloud. The 86% of the business organisations do not have a digital strategy. They are confused of the meaning of being digital means Mobility, Analytical Technologies, Cloud Technology, Social Media, Using digital technology to enhance productivity and efficiency across the enterprise, replacing business/functional processes with digitally enabled processes, Turning digitized resources into new sources of revenue, following are the main obstacles in the way of smooth and speedy growth of digitization.



- High costs associated with digital technology and related transactions
- Deficits in infrastructures required to support adoption of digital technology
- Poor linkages between digital technology adoption and value chain efficiency/productivity
- Lack of interest/awareness/preparedness within customers for engaging into digital-transactions
- Poor level of preparedness amongst suppliers/vendors for increased digital collaboration
- Meeting the pace of innovation and change which is outstripping current in-house experience and capacity
- Lack of interest/awareness within the leadership and workforce to embrace digital technologies
- Traditional separation of Business and IT inhibiting adoption and integration of digital technologies
- Legacy structures / Internal organization and divisional silos
- Inability to generate material benefits for innovation/R&D set up from increased adoption of digital technology

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- [www.indiacelebrating.com](http://www.indiacelebrating.com)
- [www.businessstoday.in](http://www.businessstoday.in)

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**HADOOP: A SOLUTION TO BIG DATA PROBLEMS****Dr. Rohit Kumar<sup>1</sup>, Priti Rani Rajvanshi<sup>2</sup> and Dr. Manju Gupta<sup>3</sup>**Assistant Professor<sup>1,2</sup> and Academic Dean<sup>3</sup>, Information Technology, Institute of Management Studies, Noida

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**ABSTRACT**

*Enormous information is an accumulation of expansive data sets that incorporate distinctive sorts, for example, organized, unstructured and semi organized information. This information can be produced from various sources like online networking, sounds, pictures, log records, sensor information, value-based applications, web and so on. To prepare or examine this large measure of information or extricating important data is a testing assignment nowadays. Enormous information surpasses the preparing capacity of conventional database to catch, oversee, and handle the voluminous measure of data. In this paper I first present the general foundation of big data followed by emphasis on hadoop framework utilizing map reduce calculation which give the environment to actualize application in circulated environment and it can fit for taking care of hub disappointment.*

*Keywords: Big data, Database, Hadoop, Framework*

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**INTRODUCTION**

Huge information is a term for information sets that are so extensive or complex that conventional information preparing applications are insufficient. Challenges incorporate examination, capture, information curation, look, sharing, storage, exchange, questioning, perception, re-designing and data protection. An example of big data may be 1024 terabytes of data restriction of trillions of records of a huge number of individuals from various sources like mobile data, websites, social media, web servers, online transactions and so on. Innovation is such a great amount being used that we are in a period that we can make sense of about human conduct through the examination and forecast of the information produced.

**CHARACTERISTICS OF BIG DATA:** As the data is too big and comes in various forms from different sources, it is summarized by the following five components:

**Volume:** Big records implies huge volumes of facts. Earlier it was data created by employees. Now that information is created by machines, systems and human communication with frameworks the amount of data to be analyzed is huge.

Now emails, photos, monitoring devices, videos, PDFs, audio, etc. are unusual facts sources.

**Velocity:** Big Data Velocity deals with the speed at which data flows in, from sources such as machines, business processes, networks and human interaction with social media sites, cellular phones, etc. The flow of data is massive and continuous

**Veracity:** This refers to the noise, biases and abnormality in data. Veracity in data analysis is the major challenge when debated to things like volume and velocity.

**Validity:** Like big data veracity is the issue of validity, whether the data is correct and accurate for the further use. Visually valid data is the key for making the correct decisions.

**Complexity:** It is a significant undertaking to connection, coordinate, wash down and change information crosswise over frameworks coming from various sources. Associating connections, pecking orders and numerous data linkages are also important, data can quickly spiral out of control.

**Hadoop**

With the industrial revolution of data, gigantic measure of information is created .with the rise of organizations the information which was limited to couple of gigabytes has now gone past petabytes into zetta bytes. Technology is such a great amount being used that we are in a period that we can make sense of about human conduct through the investigation and expectation of the information generated .Data is produced through machine

**Variety:** Variety refers to the many sources and both types of data, structured and unstructured. We store data from sources such as spreadsheets and databases. Sensors, GPS, bill, connections. Rise of new information sources has gone so high that the capacity abilities have fell short .The traditional data warehouses are limited to RDBMS idea which could deal with a greater amount of the structured data yet when in this period when we the data is producing every which way adaptable unstructured information stockpiles NoSQL databases are the new

crush of the business. The measure of unstructured information produced would we be able to make sense of by the way that consistently 1 lakh new clients are enrolled on facebook 5 billion cellular telephones are in client in 2010, 30 billion new pieces of constant is made or shared on Facebook. "Bigdata" refers to datasets whose size is beyond the capacity of regular database programming softwares tools to capture, store, oversee, and examine. Presently the business is in understanding these produced figures by examination and forecast of various parameters. Datawarehouses are likewise an essential part with regards. Big data can be implemented on both expository structured (DBMS) and unstructured (NoSQL) databases. Big data is an asset when it comes to analyse the data in motion or stream processing. Most of the big firms generate large amounts of data. With the coming to cloud models that consolidate sound data storage companies are Processing huge information. This immense produced information is a hardware data storage issue as well as on document framework plan, outlining implementation, IO Processing and versatility issue. To satisfy the necessities of the information produced information stockpiling has Essentially moved forward. However, HDD information access has not enhanced that much. Thus the fundamental issues with this rise of information are especially where to store this tremendous information or the capacity limits issue. Further imperative factors take in the complex bandwidth and the dependability. Reliability refers to the output if any not favorable condition materializes which can lead to the loss of important data and in turn leads to the flaw in analysis of the system. Thus a backup of the data stored should always be present to cope up with the situations of data los risks. Another main concept is of network bandwidth. Accordingly capacity, computation, reliability, bandwidth issues are a portion of the big data issues which the modern IT industry is facing. Yes Hadoop framework can be a best framework which can furnish with these features and other extra components which could end up being a benefit for the business. In this paper we would be discussing in detail the methodology by which the Hadoop frame work helps in achieving the above discussed challenges. Apache Software Foundation hosts Hadoop, an open source project. It includes small sub projects which belong to distributed computing infrastructure. It mainly consists of:

### **I. Programming Paradigm (Map Reduce)**

#### **ii. File System (The Hadoop File System ) Architecture and Functioning**

Map Reduce: The analysis part of the Hadoop framework is overseen by the mrv1 structure. It is a programming model created by google. It deals with the rule of divide, sort, merge, join. It was worked with the point of group preparing and parallel processing. It is common for the specially appointed query, web look indexing, Log handling. From business aspect, the primary target of MapReduce is profound information investigation in view of which the expectation is done watching the examples. It contains two capacities, to examine the extensive unstructured datasets, the "Mappers" and the "Reducers". Both of the "Mappers" and the

"Reducers" are client characterized functions. The model depends on parallel programming and the datasets are parallely prepared on the diverse hubs of the cluster. Map and Reduce capacities are accessible in dialects, for example, LISPA .A side from the map and decrease work additionally contains the partitioner and the combiner capacities. Clients of MapReduce are permitted to determine the quantity of reducer assignments they crave as per which the information gets divided among these errands through the apportioning capacity. There is additionally a combiner capacity; the combiner capacity is executed on each hub that performs map function.it consolidates the neighborhood circle information before moving it to the network.The component for MapReduce is as basically divide and conquer, the main program is initiated and an input dataset is taken and according to the job requirement the master program initiates the various notes for map and reduce purposes, once the input reader is initialized to stream the data from the datasets the input reader breaks file into many tiny blocks and maps them to the nodes which are assigned mapper nodes. As told above the map and reduce functions are defined by the user, thus in the mapper nodes the user map function is executed and based on this {key, value} pairs are created , the results generated by the mappers is not simply written to the disk, some sorting is done for the efficiency reasons. Map assignments have roundabout memory cushion in which it stores the output, by default its ability is 100 MB, it can change progressively to the size, when the limit size achieves 80%, a foundation string will begin to spill the substance of thread. Map squares until the spill is complete. Before keeping in touch with the circle individual sorting is done on the sets created now the as of now started "Reducer" hubs comes enthusiastically. All the sorted information are sent to the reducer hubs by the partioner function here it gathers the same keyvalue things and the client given decrease capacity and totals result as an aggregate entity. Partion and combiner capacity is connected on the yield of the sort result so that there is less information to be composed onto the

Disk.The delivered result is gathered by yield peruser and subsequently the parallel preparing ends. Design of MapReduce comprises of Jobtracker and various trackers. Work tracker goes about as the expert and the undertaking trackers go about as the slaves. Jobtracker sits onto the Namenode and the tasktracker sits on the corresponding Data nodes .At the point when the undertaking is being submitted to the Name node and the

employment tracker is being educated about the info, by means of pulse convention it checks for the free spaces in the errand tracker and allocates map task to the free task trackers. Map tasks track information from the parts utilizing record peruser and info design and conjure map work and accordingly a key worth pair is produced in the memory support. When all the task trackers are finished with the map task the memory cradle is flushed to the nearby plate inside map node with a record and the keyvalue combine the guide hubs report to the Jobtracker and the Jobtracker begins telling the decrease undertaking hubs of the group for the following stride which is the lessen errand. The concerned diminish hubs download the records (list and key value pair) from the individual map node. Presently the lessen hubs peruses the downloaded document include the user defined decrease capacity and that gives the total key worth pair. Each decrease assignments are single strung. The yield of every reducer undertaking is composed to HDFS impermanent document. When all reduce tasks are done the impermanent record is consequently renamed to definite document name.

HDFS: The maximum data that can be stored or read was 512bytes in traditional blocks, later the file systems blocks were available which could facilitate few kilobytes with the current volume of data it is next to impossible to store or analyse this terabytes or zettabytes data over a distributed network using traditional system. It is a Hadoop data storage framework applied on the commodity hardware. HDFS blocks can accommodate a few 68-128 MB. Block extraction in HDFS is easy like replication of blocks is at block level rather than file level. HDFS is created keeping MapReduce in mind. HDFS represents a disseminated document framework that is intended to store immensely extensive datasets and in the meantime high throughput to get to datasets. HDFS contains numerous racks which are mounted by a huge number of servers and with every server a great many hubs are connected so the likelihood of the disappointment of the equipment is at its peak. So the Hadoop configuration ought to be impervious to the adaptation to internal failure, have high throughput for information spilling.

### **ARCHITECTURE**

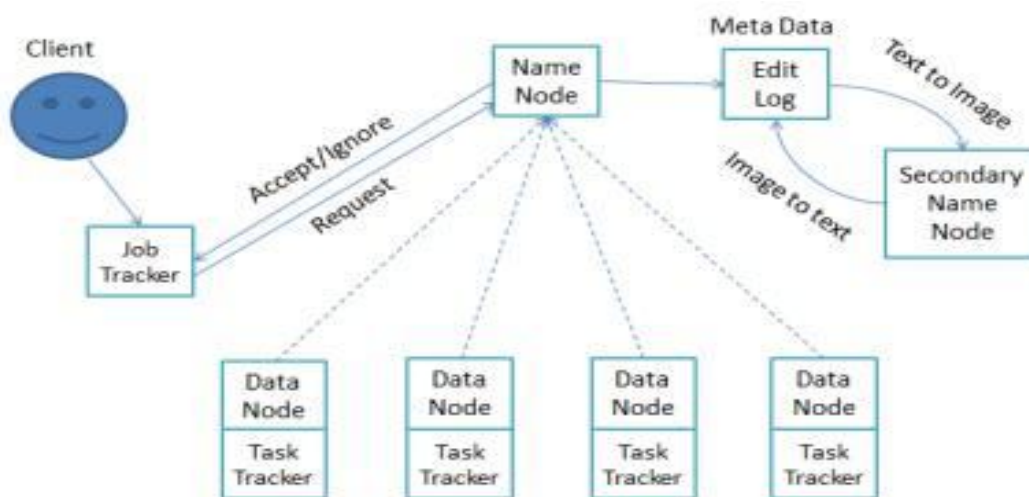
HDFS keep running on GNU/Linux working framework and is built in java. HDFS deals with the standard of expert/slave engineering. It comprises of a Namenode which is one of a kind for the entire bunch; there is an optional Namenode which goes about as a checkpoint. Rest every one of the hubs of bunch are said to be the Datanodes these go about as the slaves. Namenode goes about as the expert educating the Datanodes to perform operations. At the point when an expansive dataset is set to go into put away in HDFS the vast record is part into various hinders, these squares can live of the same document are put away on various hubs of the cluster ,each piece put away is put away as a record on the nearby record framework. HDFS keeps up a single namespace for the disseminated document system, this namespace is kept up in the Namenode,since the blocks are appropriated over the group and the Datanode store in the neighborhood record framework, this record framework tree and the metadata and directories in the trees is additionally kept up in the Namenode. This information is powerful in nature.Name hub comprises of 2 records for putting away every one of these information which are FSImage and the alter log respectively. FSImage stores information square document mapping and file system properties while the alter log comprise of all the progressions done to the document system, all the alterations to pieces are subjected to the editlog. For the best possible working of HDFS the most critical thing is the expert the Namenode if the Namenode comes up short the HDFS gets to be obsolete,it ought to be all through functional ,if it fizzles there could be enormous dataloss since HDFS is utilized by monstrous datasets. In spite of the fact that we can't completely control the Namenode disappointment yet we can minimize its impact by having checkpoints. We have auxiliary name hub for it which consolidates the fSI picture and the alter log occasionally, when the metadata from the Namenode is put away on the neighborhood plate it is likewise mounted onto N mountpoints pretty much as a reinforcement. These CPU concentrated consolidation exercises are on the different framework. In the event that at any minute the Namenode comes up short then the fsi picture from the mounted locales is grabbed and it keeps running as the essential Namenode. This is the means by which optional Namenodes can be vital .The working of HDFS is kept exceptionally basic and element, when the framework begins the framework is in a nonpartisan state sitting tight for the information hubs to send data about the empty pieces so that the name hub can relegate the square to Datanode, through pulse convention and square reports the name not get these messages taking into account which the Namenode distributes the diverse information lumps to the distinctive information hubs. If Namenode fails optional hub goes about as the Namenode as talked about before. After this the Namenode chips away at the piece replication if any less replication is done than the replication component it works for it until it satisfies. As the Namenode boots the FsImage and the editlog are accessed from the neighborhood plate and all the editlog exchanges are mapped into existing FsImage along these lines making new FsImage document, in the mean time the old editlog is flushed, that is the manner by which it is alterable.

**Reliability:** An extraordinary quality which the Hadoop structure persevere is that when the info document is to store in HDFS outline work it experiences the part of the substantial dataset into littler pieces. The pieces of information are reproduced over various hubs of the bunch.

Replication is done on the information hub level. Replication component is presented which is the quantity of imitations accessible of the same square. This gives adaptation to internal failure, foreg. In the event that a rack fizzles then all the comparing hubs to that fall flat so by replication we have the same information obstruct over different squares in this manner we can get to the required information piece expanding unwavering quality. Replication over the same hub is kept away from on the grounds that replication or reinforcement over same hub is of no utilization since a hub fall flat its move down is additionally gone in this manner Hadoop utilizes replication around various hubs of the bunch. Additionally the optional Namenode which is the back of the essential Namenode as talked about before conveys the reinforcement of the FsImage and editlog to go about as essential name hub if the primary Namenode fails. This guarantees the reliability quality of the Hadoop system.

**High performance:** Another worry in the appropriated system is the Network Bandwidth. Yes, Hadoop is the answer for Bandwidth compel too .Since the Hadoop utilizes a greater amount of the neighborhood information. This can be comprehended by this illustration that while replication if the Hadoop has a replication variable 3 (most unmistakable case) then it implies it will spare three of its replication duplicates on the hubs.

**Diagrams:** Hadoop structure which comprises of two primary systems which are the MapReduce system and The Hadoop Distributed File System are interlinked . Mapreduce is chiefly for the process or examination part which is the heart of the Big Data Analysis. Both of these intra Frameworks are highly depended on each other. Master Slave design exists in the Hadoop.The information document is divided into numerous pieces and is saved money on various nodes(data nodes),the replication of these squares( to expand the reliablity if there should be an occurrence of any mishap) is additionally on the same or different tracks remembering minization of system data transfer capacity use. The jobtracker sits over the namenode information record is being sent to the namenode which partitions and the document pieces are saved money on the Datanodes this is the capacity area, if there should be an occurrence of any perused or compose operation the job tracker (master) on the namenode requests that the assignment trackers do the mapper and the reducers undertakings separately this is the calculation part of the Hadoop.



HDFS ARCHITECTURE

Figure1.1 [12]

**CONCLUSION**

Maximum measure of industry produced information is unstructured. Regardless of the possibility that it is organized it is huge to the point that the conventional RDBMS is a come up short for storing Enormous variety, volume and speed of the data. Hadoop structure is a benefit as it aides in accomplishing the mail objectives of the business, for example, the storage, computer and analysis, reliability and adaptation to non-critical failure, last however not the minimum the system transmission capacity. Along these lines utilizing Hadoop we can conveyed store the information utilizing HDFS and register it as per the client characterized capacities in MapReduce.

**ACKNOWLEDGEMENT**

I would like to thank my family, friends, faculty for motivating me and helping me focus on my goal.

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**A COMPREHENSIVE ANALYSIS ON THE INTENSITY OF CRIMES COMMITTED AGAINST WOMEN LIVING IN DELHI & NCR: POST NIRBHAYA**

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**ABSTRACT**

*The cases of rape and other crimes committed against women are reported in media every day. The fatal gang rape of a 23 year old woman on a moving bus in the National capital of India captured media headlines not only in India but across the world due to the horrific manner in which this crime was committed. The present research attempts to understand the representation of crime against women in print media with special reference to Delhi gang rape case and also how the young Indian women feels about representation of such incidences in media. The data is collected from four newspapers, The Times of India, Hindustan Times Nav Bharat Times and Amar Ujala published from Delhi from the first reporting of case till date.*

*All the news items were read and re-read carefully and analyzed thematically. The primary data was also collected among the 500 young female students studying in Sharda University to know about their views regarding the portrayal of crime against women in Indian print media with special reference to Delhi gang rape case. Dhananjay Chatterjee was the last convict who was hanged in year 2004 for rape in Calcutta. From that time till date more than four lakhs rape cases has been reported in all over India in different police station. The Nirbhaya rape case is in final stage of hearings and it can be concluded that media needs to be more sensitive towards coverage of crime against women and general public needs to be more vocal and aware to deal with these cases in more effective manner.*

*Keywords: Women; Crime; Rape, Print media*

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**INTRODUCTION**

Rape is an unlawful sexual intercourse with a woman without her consent. It is a cross-cultural crime stemming primarily from patriarchal ideologies and gender power. It is generally used as an instrument of communication about masculinity and powerfulness. The cases of rape and other crimes committed against women are reported in print media every day. A number of researchers have attempted to understand the portrayal of crime against women in print media. There are a number of myths related to rape in the print media .These include: rape is sex, the assailant is motivated by lust, the assailant is perverted or crazy, the assailant is usually lower class, women provoke rape, women deserve rape, only 'loose' women are victimized, a sexual attack sullies the victim, rape is punishment for past deeds and women cry rape for revenge. The media can also play role of an activist and can generate a public opinion about the sensitive issues such as rape.

The fatal gang rape of a 23 year old woman on a moving bus in the National capital of India captured media headlines not only in India but across the world due to the horrific manner in which this crime was committed. The present research paper attempts to understand the representation of crime against women in Indian **print media** with special reference to Delhi gang rape case and also how the young Indian women feels about representation of such incidences in media.

The present study highlighted the gender bias in the use of language for rape.

**OBJECTIVE**

- (1) To study changing trends in the quantum of crimes committed against women in India.
- (2) To identify shifting trends in the nature of crimes committed against women in India.

**METHODOLOGY**

A key aspect of coding is its reliability. There are two forms of coding reliability, both of which are important. The first is intra-coder reliability. To deal with first kind of reliability, the data was observed again and again over a period of time to gain a deeper insight, and to arrive at the common themes. The second form of reliability is inter-coder reliability. This form of reliability was taken care of by taking help of researchers involved in similar kind of research. The themes which were commonly agreed upon are included in the present study.

**HYPOTHESIS TO BE TESTED**

- (1) There are significant changing trends in the quantum of crimes committed against women in India.
  - (2) There are significant shifting trends in the nature of crimes perpetrated on women in India.
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## ANALYSIS AND FINDINGS

A sample size of 500 respondents mainly girls studying in Sharda University was taken up for the collection of primary data. The theme such as 'the rape', 'the victim', 'the protest', 'the after affect and 'the verdict' emerged which are discussed in detail. The secondary data was taken up from Delhi Police website.

### THE RAPE

In media, the Delhi gang rape incident was referred as 'capital gang rape' and 'Delhi shame' in Hindustan Times, and 'capital shame' and 'the Delhi gang rape' in The Times of India. It has been described as a 'ghastly incident', 'brutal violence', 'spine chilling incident', 'scar for life', 'shocking incident', 'matter of shame', 'aggravated sexual assault', 'brazen incidence', 'rarest of rare case', and 'unfortunate'. Rape is mentioned as a 'problem that has plagued all metropolitan cities'.

The titles such as 'Delhi rape horror' (19 December, 2012, The Times of India) appeared and the related issues such as security of women in the titles such as 'ensure sense of security' (23 December, 2012, Hindustan Times).

With the background that Delhi gang rape was widely covered by the print media, the respondents were asked to define rape. The most common definition of rape appeared to be: "sexual assault with a person against his/her will". While some respondents only mentioned the physical dimension of rape but others also mentioned about psycho-social dimensions of rape such as mental harassment, social stigma and abetment to suicide. Some respondents mentioned the seriousness of the issue and stressed upon the need for a serious action against the rapists. A respondent mentioned that "*rape is worse than terrorism and destructs the social life of the victim*".

### THE VICTIM

By looking at the coverage of Delhi gang rape, the one obvious question that appears in one's mind is: why this particular case gained importance in the mass media? The answer to this question can be derived from what we call as 'media selectivity' and the 'dramatic value' of a crime. As Delhi gang rape case has repeatedly been called as a 'rarest of the rare case' due to the horrific nature of the crime. In order to know how rapes are portrayed in Indian media, around 500 respondents were asked whether the media treat rape cases sensitively or sensationalize them. Most of them believed that a large number of rapes are happening in India and these often go unnoticed. Only a few are covered which creates hype for few days but later the issue of justice is lost.

Except one hundred respondents, all other felt that media sensationalize the rape cases for various reasons which include desire for popularity, lack of sensitive training to deal with such issues and lack of concern for one who is raped. One of the respondents narrated, "*media uses someone's suffering as a stepping stone to popularise their newspapers and channels*". The one hundred respondents who believed that media treats rape cases sensitively, argued that media creates awareness regarding sexual violence which is important to deal with such cases. One of the most important issues in rape coverage in media is anonymity.

Due to the stigma associated with rape, the identity of women raped is often not disclosed. Similar findings were made in the present study. Except 100 respondents all other believed that due to the stigma attached to rape and ways in which our society views rape victims and their families, the identity of one who is raped should not be disclosed. On contrary, one respondent narrated, "*rape is not a matter of shame for the victim but for the rapist. Shout for justice and tell the identity proudly*". Another respondent mentioned, "it should actually be left upto the victim and her family to decide".

In order to hide the identity of the Delhi gang rape victim, the names such as 'Nirbhaya' (fearless), 'Amanat' (treasure), 'Damini' (lightening) and 'Jagruti' (awareness) were used in the print media. The girl has been repeatedly referred to as 'gang rape victim' (27 December, 2012,

Nav Bharat Times) and 'women in distress' (25 December, 2012, Hindustan). The respondents in the present study were asked whether the fictitious names should be used for those raped and does it provide any help. Except twenty respondents, all believed that such names do not provide any kind of help. A respondent narrated, "when a person's name is unknown to the people, use of fictitious names help to address the victim". Another respondent mentioned, "the society use these names just as pronoun so that the victim can be specified". Yet another argued, "providing fictitious names gives confidence to the women or girl who are rape victims".

### THE PROTEST

The Delhi gang rape was followed by the violent protests in Delhi at Indian Gate, Jantar Mantar, Ramlila Maidan, Vijay Chowk and Rashtrapati Bhawan. These protests have been mentioned as a reaction of 'utter



shock and anguish' which is 'justified'. At some places, these protests have been referred to as violent, 'goondaraj' (hooliganism) and 'vandalism', and the protestors as 'hooligans'.

A number of remarks made by various politicians and others against the victim and the protestors were presented by print media. Certain *Khappanchayats* (local community councils) of Haryana issued a decree banning women from carrying cell phones and wearing jeans or any other clothing that might "invite trouble.

In order to know about how the young Indian women feel about the 'blame debate' that was widely covered by print media, all the respondents believed that women are not responsible for rape. They mentioned a number of causes of rape which include male patriarchy, western influences, stereotype of society, access to pornographic videos, drug abuse, alcoholism, lack of education particularly sex education, treatment of women as sex objects, weak judiciary and fearlessness of laws.

#### **THE AFTER-EFFECT AND THE VERDICT**

This incidence generated a lot of debate regarding the strengthening of rape laws in India. The respondents were asked about the role of police and judiciary in dealing with rape cases. The respondents suggested that speedy justice should be provided in rape cases by fast track courts and strict punishment should be given to culprits.

Some others highlighted that police and judiciary should be sensitive to those who are raped and their families so that 'victims are not victimised' and mentioned that they should not be unduly harassed in the process. One of the respondents called Indian judiciary as 'slow churning machinery'.

#### **FILM INDIA'S DAUGHTER BY LESLEE UDWIN POST NIRBHAYA**

INDIA'S DAUGHTER is the story of the short life, and brutal gang rape and murder in Delhi on 16<sup>th</sup> December 2012 of an exceptional and inspiring young woman. The rape of the 23 year old medical student by 6 men on a moving bus, and her death, sparked unprecedented protests and riots throughout India and led to the first glimmers of a change of mindset. Interwoven into the story line are the lives, values and mindsets of the rapists whom the film makers have had exclusive and unprecedented access to interview before they hang. The film examines the society and values which spawn such violent acts, and makes an optimistic and impassioned plea for change.

The film was scheduled to be aired on TV channels round the world on March 8, 2015 to coincide with International Women's Day. However, when excerpts of the film, which included an interview with Mukesh Singh, one of the four men convicted of the rape and murder, were broadcast, a court stay order prohibiting the broadcast was obtained by the Indian police.

The BBC complied with the request and did not air the film in India. Yet it aired outside of India on 4 March, was uploaded on You Tube, and soon went viral via shares on social media. On 5 March, the Indian government directed YouTube to block the video in India.

#### **LITRATURE REVIEW**

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They attempt to see what official, published data reveal, whether there are clear-cut regional patterns and if so whether they can lead to meaningful hypotheses for future work. There are some significant researches being conducted by scholars in finding important factors influencing reporting behavior of victims of violence.

**Kaveri Devi Mishra, Sridhar Krishnaswami**, *Citizens Journalism in India: A Case Study of Delhi*, *Journal of Education & Social Policy* Vol. 1 No. 1; June 2014.

Their paper evaluates and analyzes the emergence, trend, and role of Citizen Journalism with explicit reference to Delhi Gang rape – Nirbhaya case in 2012. The paper at the end raises concerns on the ethics and to what extent unfiltered information can reach the masses and strike a balance in the society.

**Kriti Singh**, *A Small Study On Impact Of Crime Against Women News Stories On Indian Urban*, *Imperial Journal of Interdisciplinary Research*, Vol-2, Issue-3, 2016

The research paper is an attempt to gauge the impact of crime news stories related to women on urban women based in urban areas of India. The paper tries to analyze the crime news consumption habits in urban women and what impact does these news stories create in the mind of women.

**Jason Burke**, The problem with crime against women in Delhi, <https://www.theguardian.com/commentisfree/2011/feb/22/problem-crime-against-women-delhi>

Since 2012 when the Nirbhaya gang rape happened, there was a marked increase in the registration of cases relating to crimes against women across the country. A total number of 24,923 rapes were reported in 2012, this figure rose up to 33,707 in 2013, due to increase in awareness among the common people and prompt registration of FIRs by police on complaints of women. The number of rape cases again rose up to 36,735 in 2014 out of which 2346 were gang-rapes. However, the numbers came down to 34,561 in 2015 including 2,113 gang rapes.

**DELHI POLICE CRIME DATA IMPORTANT HIGHLIGHTS AGAINST WOMEN**

- 2,043 cases of rapes were registered in 2018 as compared to 2,059 cases in 2017
- 43% of the accused in rape cases were either friends or family friends, 16.25% were neighbours
- According to Delhi Police analysis, 43 per cent of the accused in rape cases were either friends or family friends, 16.25 per cent were neighbours, 12.04 per cent were relatives, 2.89 per cent were co-workers, 22.86 per cent were other known persons.
- A meagre 2.5 per cent of the accused were not known to the victim, police said, adding that this was a decline from the previous years.
- In 2017 and 2016, strangers comprised 3.36 and 3.57 per cent of those arrested for rape.
- As many as 2,290 arrests were made in rape cases last year as compared to 2,275 in 2017 and 2,072 in 2018.
- Police have requested the Delhi government for improving last mile connectivity and also requested the Social Welfare Department for initiating programmes for awareness and education in slums and places recording higher incidents of crime against women.
- Delhi Police has also requested the city government for installation of lights on dark stretches, including self-defence as part of school curriculum.
- As safety of women in the national capital continues to remain a cause of concern, police have laid emphasis on popularisation of 'Himmat Plus', creating gender sensitisation and mindset reformation as a part of 'Sashakti'. Identification of dark stretches and sharing information with civic agencies is also on the fore.
- Five women were raped and eight were molested everyday on an average in the national capital last year, Delhi Police spokes person said in press conference.
- According to Delhi Police data, 2,043 cases of rapes were registered last year as compared to 2,059 cases the year before that and 2,065 cases in 2016.
- Last year, 3,175 cases of molestation were reported as compared to 3,275 cases the year before and 4,032 cases in 2016. In most of the rape cases, the accused were known to the victim, police said.

**DELHI POLICE CRIME CHART AGAINST WOMEN (2012 -2019)**

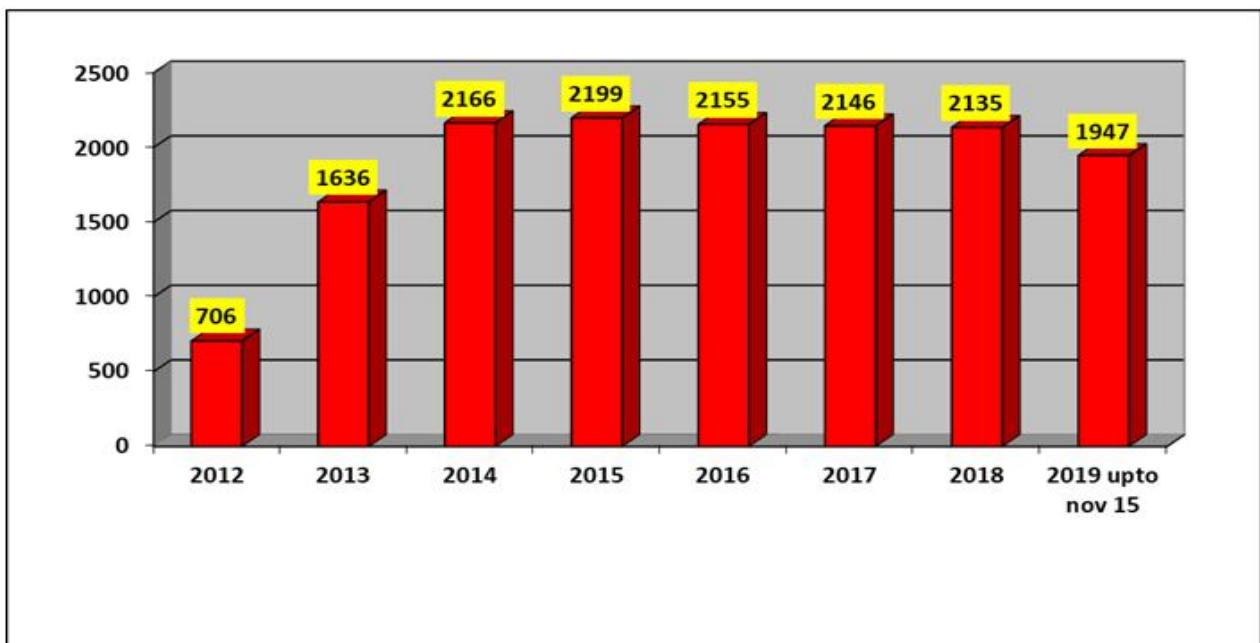
CRIME HEAD	2012	2013	2014	2015	2016	2017	2018	2018	2019
								UPTO	15TH NOV.
RAPE(376 IPC)	706	1636	2166	2199	2155	2146	2135	1921	1947
ASSAULT ON WOMEN WITH INTENT TO OUTRAGE HER	727	3515	4322	5367	4165	3422	3314	2956	2616
MODESTY (354 IPC)									
INSULT TO THE MODESTY OF	214	916	1361	1492	918	640	599	544	427

WOMEN (509 IPC)									
KIDNAPPING OF WOMEN	2048	3286	3604	3738	3445	3439	3482	3067	3104
ABDUCTION OF WOMEN	162	323	423	556	444	322	262	240	170
498-A/406 IPC (CRUELTY BY HUSBAND AND IN LAWS)	2046	3045	3194	3536	3877	2745	3416	2716	3187
DOWRY DEATH (304B)	134	144	153	122	162	120	153	133	106
DOWRY PROHIBITION ACT	15	15	13	20	18	11	15	14	16

**DATA ANALYSIS BASED ON DELHI POLICE INPUTS (2012-2019)**

**RAPE (376 IPC)**

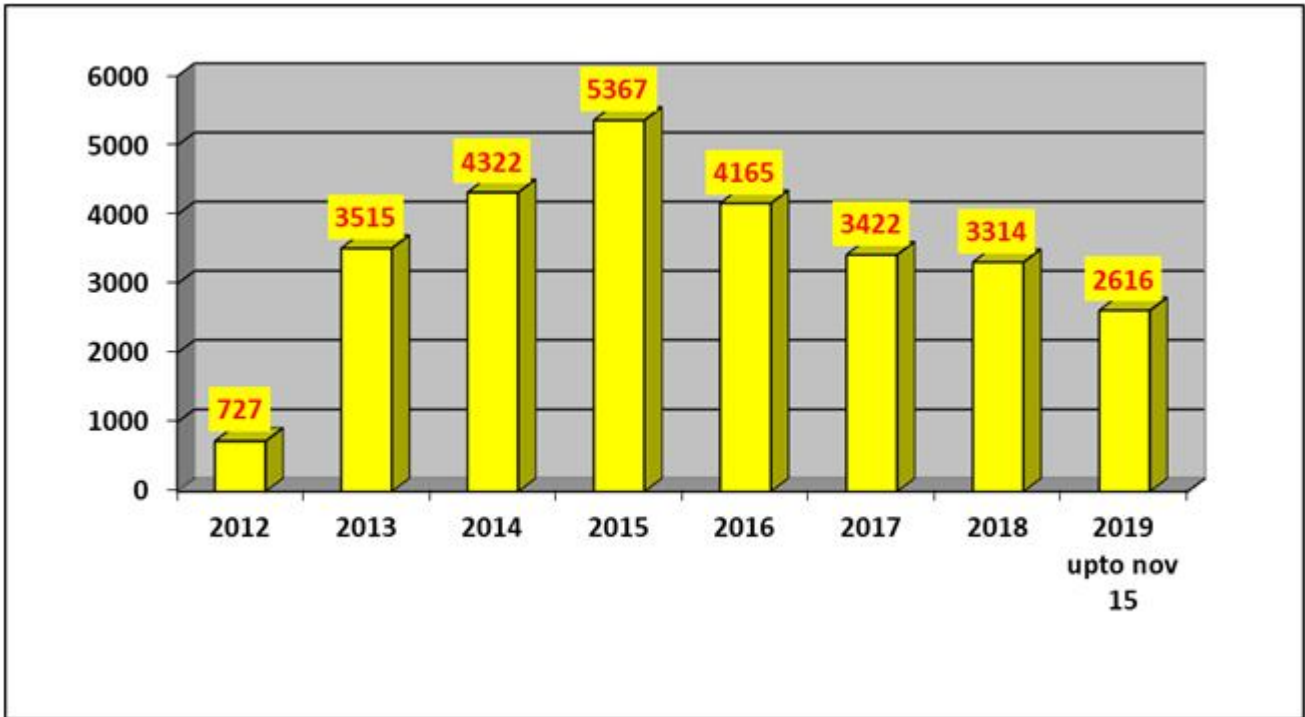
YEARS	2012	2013	2014	2015	2016	2017	2018	2019 upto November 15
NUMBER OF CASES	706	1636	2166	2199	2155	2146	2135	1947



Here we can see that there is an increase in number of rape cases registered from year 2012 to 2015 and after that there is a slight decrease in the number of rape cases registered from year 2016 to 2019.

**ASSAULT ON WOMEN WITH INTENT TO OUTRAGE HER MODESTY (354 IPC)**

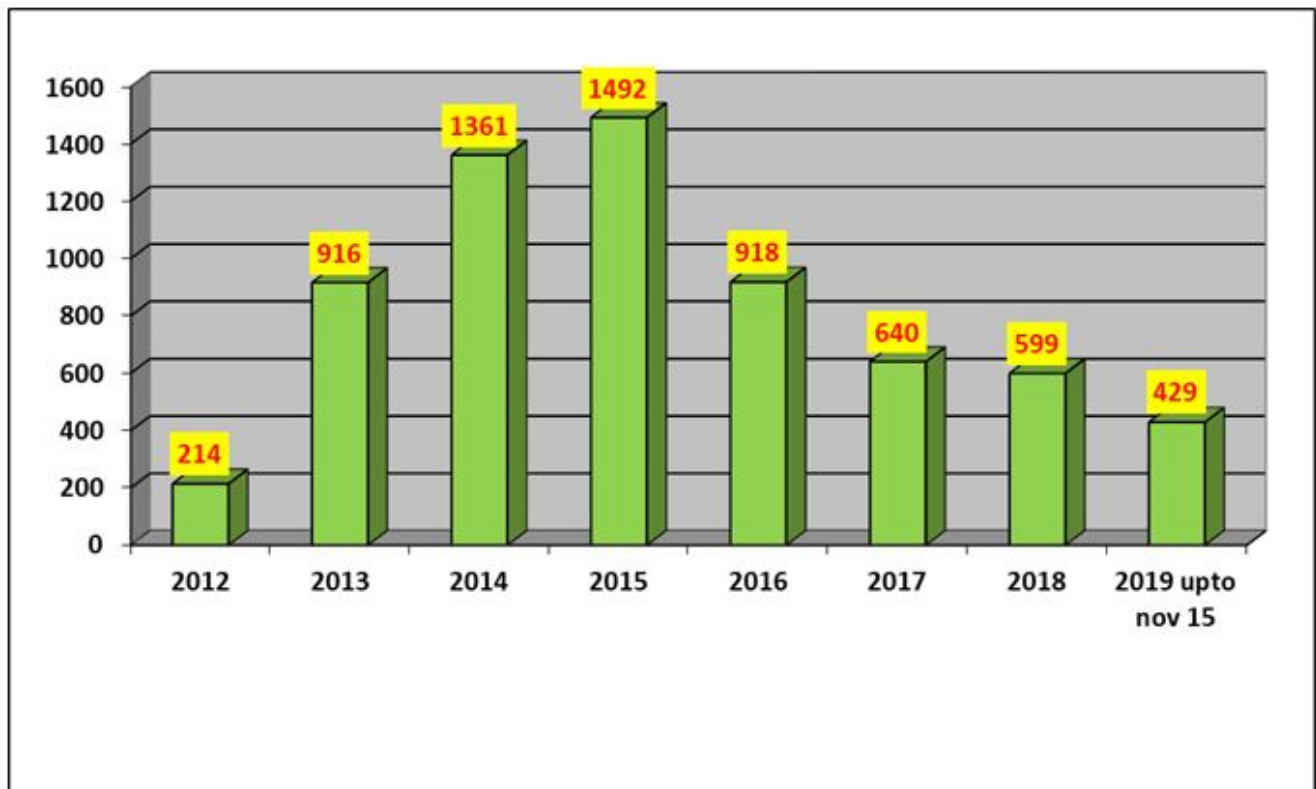
YEARS	2012	2013	2014	2015	2016	2017	2018	2019 up to November 15
NUMBER OF CASES	727	3515	4322	5367	4165	3422	3314	2616



Here we can see that the number of assault cases registered has increased from year 2012 to 2015 and after that there is a slight decrease in number of assault cases registered from year 2016 to 2019.

**INSULT TO THE MODESTY OF WOMEN (509 IPC) 214**

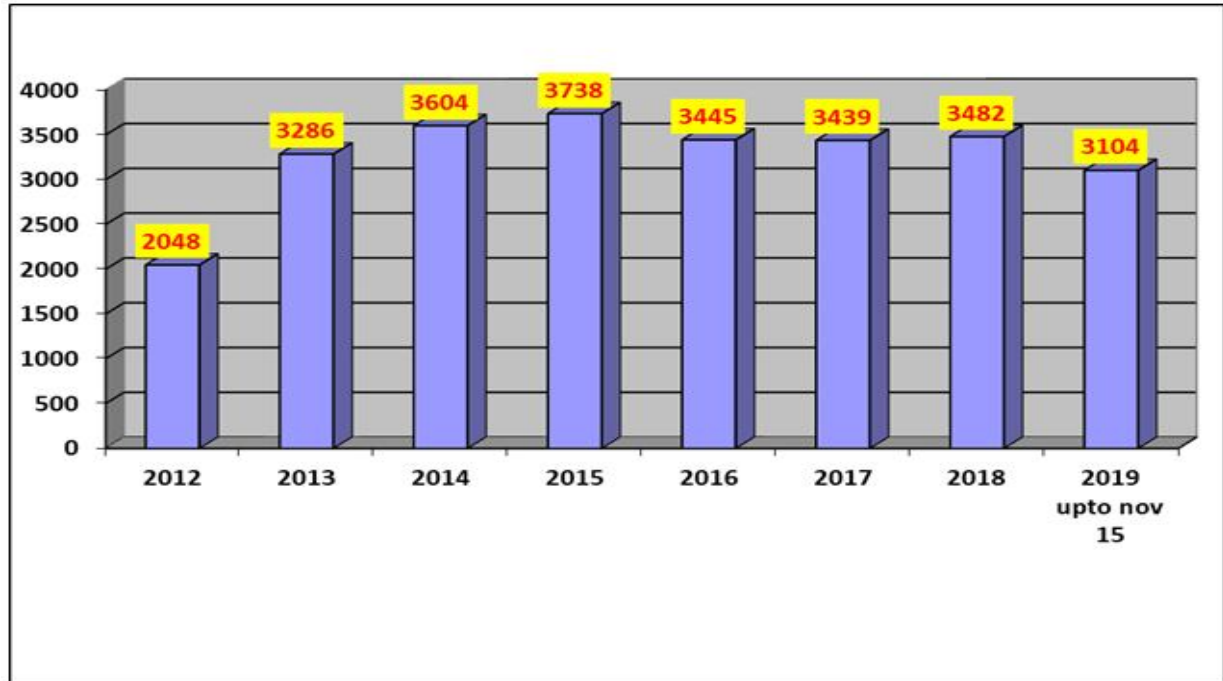
YEARS	2012	2013	2014	2015	2016	2017	2018	2019 upto 15 <sup>th</sup> November
NUMBER OF CASES	214	916	1361	1492	918	640	599	429



Here we can see that the number of Insult to modesty cases registered has sharply increased from 2012 to 2015 whereas it has shapely decreased in numbers from year 2016 to 2019.

**KIDNAPPING OF WOMEN (361 IPC)**

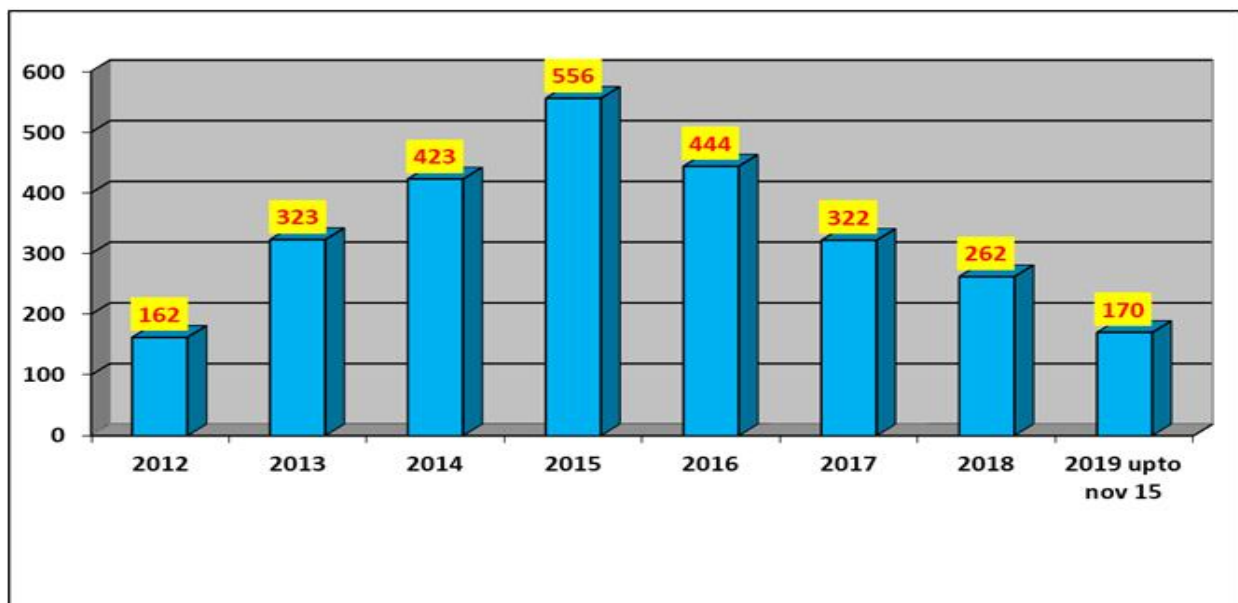
YEARS	2012	2013	2014	2015	2016	2017	2018	2019 upto 15 <sup>th</sup> November
NUMBER OF CASES	2048	3286	3604	3738	3445	3439	3482	3104



Here we can see that number of kidnapping of women cases registered has increased from year 2012 to 2015 and after that it has slightly decreased from year 2015 to 2017. In year 2018 it has slightly increased and in year 2019 it has come down once again.

**ABDUCTION OF WOMEN (362 IPC)**

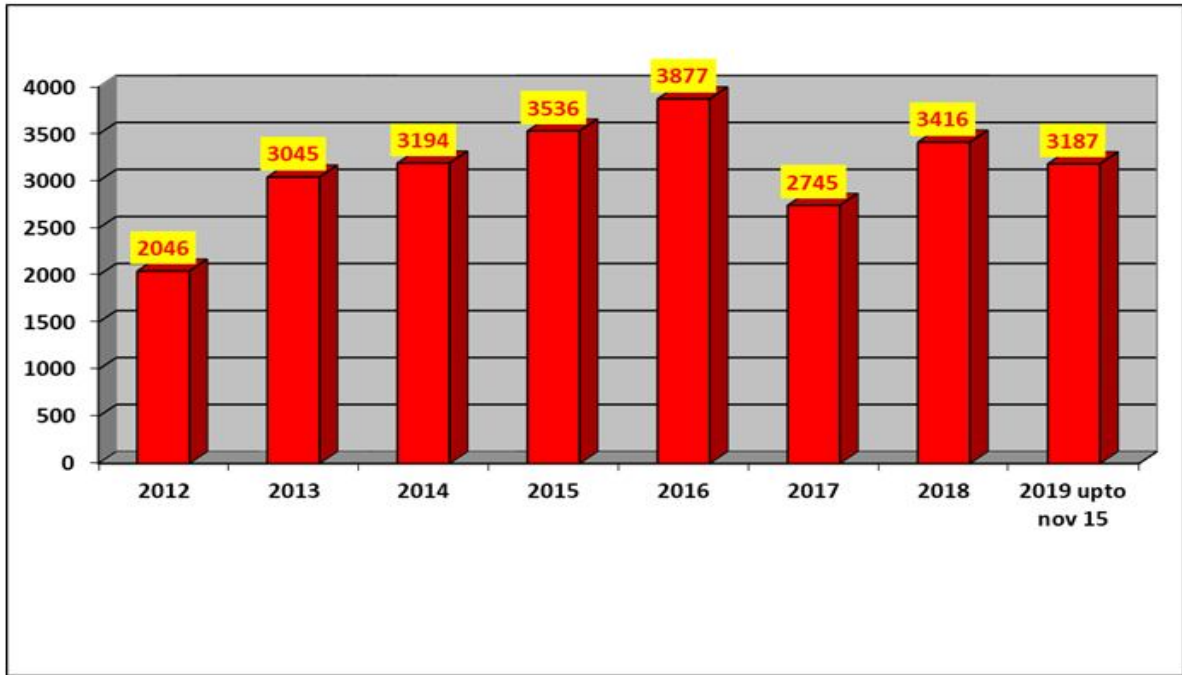
YEARS	2012	2013	2014	2015	2016	2017	2018	2019 upto 15 <sup>th</sup> November
NUMBER OF CASES	162	323	423	556	444	322	262	170



Here we can see that there is sharp increase in number of abduction cases from year 2012 to 2015 and after that the number of abduction cases have come down (decreased) from year 2016 to 2019.

**498-A/406 IPC (CRUELTY BY HUSBAND AND IN LAWS)**

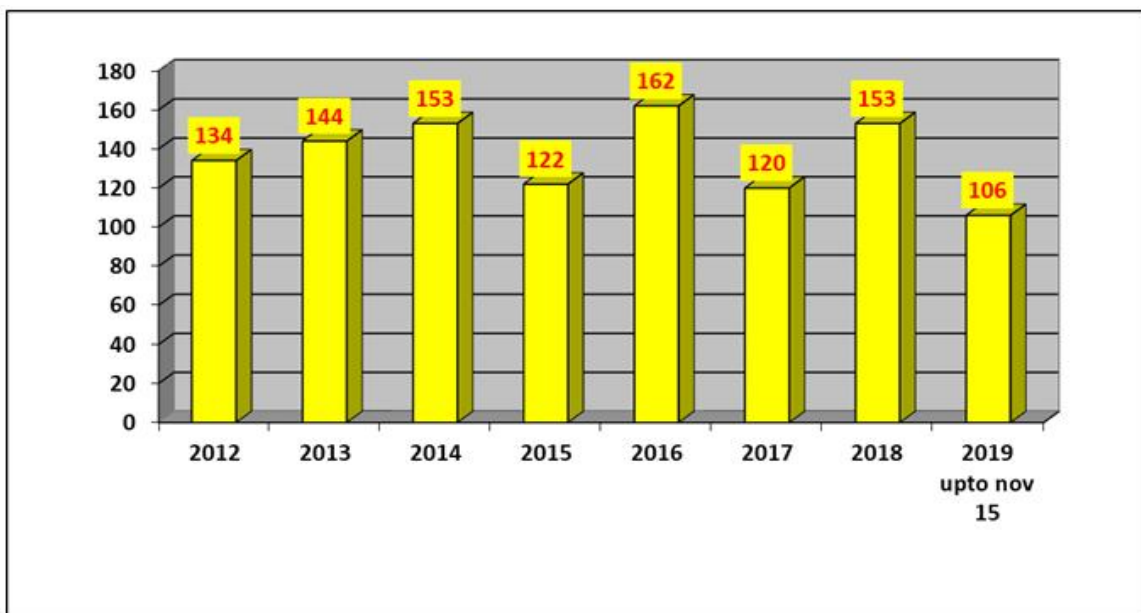
YEARS	2012	2013	2014	2015	2016	2017	2018	2019 upto 15 <sup>th</sup> November
NUMBER OF CASES	2046	3045	3194	3536	3877	2745	3416	3187



Here we can see that the number of dowry death cases has increased from year 2012 to 2014. In year 2015 less dowry cases were registered whereas in year 2016 it again rose up and in year 2017 it again came down and it slightly increase in year 2018 and again it decreases in year 2019.

**DOWRY DEATH (304B IPC)**

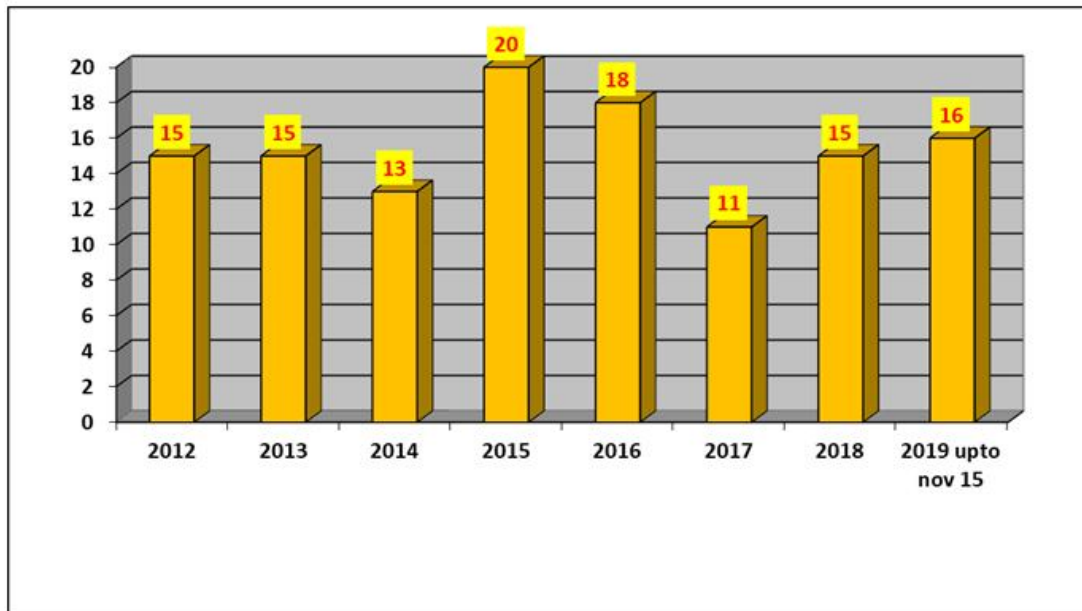
YEARS	2012	2013	2014	2015	2016	2017	2018	2019 upto 15 <sup>th</sup> November
NUMBER OF CASES	134	144	153	122	162	120	153	106



Here we can see that the number of dowry death cases has increased from year 2012 to 2014. In year 2015 less dowry cases were registered whereas in year 2016 it again rose up and in year 2017 it again came down and it slightly increase in year 2018 and again decrease in year 2019.

**DOWRY PROHIBITION ACT 1961**

YEARS	2012	2013	2014	2015	2016	2017	2018	2019 upto 15 <sup>th</sup> November
<b>NUMBER OF CASES</b>	15	15	13	20	18	11	15	16



Here we can see that cases registered under the dowry prohibition act in year 2012 and 2013 remained the same where as it decreased in year 2014. In year 2015 it reached to its peak & in year 2016 to 2017 it has decreased slightly whereas from year 2018 to 2019 it has increased once again.

**ANALYSIS AND FINDINGS BASED ON THE STUDY OF TABLE AND GRAPH**

Based on the study of these graphs it has come to light that maximum numbers of cases were registered in year 2015 and thus crime rates were highest and on its peak and from 2016 onwards the number of cases came down and again rose up. Thus we can see slight increase and decrease in number of different crime cases committed against the women.

**JUSTICE JS VERMA COMMITTEE REPORT**

This committee was constituted to recommend amendments to the Criminal Law so as to provide for quicker trial and enhanced punishment for criminals accused of committing sexual assault against women. The committee submitted its report on 23 January 2013.

**REFORMS IN MANAGEMENT OF CASES RELATED TO CRIME AGAINST WOMEN:**

- A Rape Crisis Cell should be set up. The Cell should be immediately notified when an FIR in relation to sexual assault is made. The Cell must provide legal assistance to the victim.
- All police stations should have CCTVs at the entrance and in the questioning room.
- A complainant should be able to file FIRs online.
- Police officers should be duty bound to assist victims of sexual offences irrespective of the crime’s jurisdiction.
- Members of the public who help the victims should not be treated as wrong doers.
- The police should be trained to deal with sexual offences appropriately.
- Number of police personnel should be increased.
- Community policing should be developed by providing training to volunteers.

**DISHA BILL: ANDHRA PRADESH NEW LAW ON RAPE**

The Andhra Pradesh Legislative Assembly has passed the Andhra Pradesh Disha Bill, 2019 (Andhra Pradesh Criminal Law (Amendment) Act 2019). The bill provides for awarding death sentence for offences of rape and gang rape and expediting trials of such cases to within 21 days.

The Act envisages the completion of investigation in seven days and trial in 14 working days, where there is adequate conclusive evidence, and reducing the total judgment time to 21 days from the existing four months. The AP Disha Act also prescribes life imprisonment for other sexual offences against children and includes Section 354 F and 354 G in IPC.

### **RECOMMENDATIONS**

It is suggested that further studies can be conducted on the basis of the findings of this study. More newspapers, especially local newspapers should be examined to reveal different patterns of reporting of crime news. The findings obtained could be compared with the present findings. Studies of the public perception of the phenomenon of crime and the criminal justice system should also be conducted to explore the effect of the media on the audience. For this type of study, Doris Appel Graber's study may help determine the degree to which the public relies on crime news to form their opinion about crime issues and if there is fear of crime among the public that is caused by the media.

### **DISCUSSIONS**

Rape coverage in the media has many effects in society. It often shapes the way in which people think about rape, as well as how they receive rape victims, rapists and those accused of rape. Thus, the media coverage of crime against women especially rape is very important area of interest for media anthropologists. The two aspects of Delhi gang rape case were covered: optimism and struggle. The optimism, on one hand, and the struggle for survival, on the other hand, appeared to be the most common themes related to the victim's portrayal. It is due to wide-spread coverage by the media that Delhi gang rape case received attention both nationally and internationally. It also forced the law making bodies to take the crimes against women especially rape more seriously.

Thus, media activation played a very important role in generating a public opinion and a nation-wide protest. Due to the rare nature of the Delhi gang rape case, it has been widely covered in Indian print media. Repeatedly in the portrayal, metropolitan cities especially Delhi have been described as unsafe for women. It has been mentioned that there is insecurity among the women about their safety. It can be concluded that media needs to be more sensitive towards coverage of crime against women and general public needs to be more vocal and aware to deal with these cases in more effective manner

### **CONCLUSION**

Due to the rare nature of the Delhi gang rape case, it has been widely covered in Indian print media. Repeatedly in the portrayal, metropolitan cities especially Delhi have been described as unsafe for women. It has been mentioned that there is insecurity among the women about their safety. It can be concluded that media needs to be more sensitive towards coverage of crime against women and general public needs to be more vocal and aware to deal with these cases in more effective manner.

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**A STUDY ON EFFECTIVENESS OF RECOVERY OF NPAS OF COMMERCIAL BANKS A CASE STUDY ON LOK ADALAT METHOD OF RECOVERY IN INDIA**

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**ABSTRACT**

*The purpose of current study was to examine the effect of debt recovery techniques on performance of commercial banks in India. The research design adopted a descriptive survey design. The data collected in the study was analyzed by the use of descriptive statistics and inferential statistics. This includes the use of descriptive statistical methods to analyze data consisting of frequency, mean and standard deviation. The relationship between variables was done using multiple linear regression models. At Present, recovery is risk of credit on banks. It is also known as credit risk. A bank credit risk has two distinct faces, „quality of risk“ and „quantity of risk“. It is observed that the recovery is carried out in the selected banks by adopting following ways General Mechanism All banks operated general mechanism of recovery of NPA, means all primary measures to persuade the defaulting borrowers to repay their over dues like writing letters and sending representatives of the banks to the borrowers for personal visits. Legal Mechanism In case of legal mechanism it is observed that all the selected banks operated this mechanism to the maximum extent involving Debt Recovery Tribunals (DRT), Lok Adalat, Securitization Act, and Compromises (OTS), Write off, Up-gradation and Cash recovery. The present study focus on different measures taken by the selected banks in India, with an objective of commonly used recovery methods in public sector banks and private sector banks and hypothesis is framed to know difference between commonly used recovery methods in public sector banks and private sector banks. Keywords: NPA, Legal Mechanism, DRT, Lok Adalat, OTS.*

*Keywords: Collateral, Debt recovery, Customer-Supplier, Credit monitoring*

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**INTRODUCTION**

A Bank is a financial institution whose primary objective is to act as a payment agent for customers and to borrow and lend money needy persons. It is a financial institution which receives keeps, and lends money in hopes of repayment. The name bank derives from the Italian word Banco "desk/ bench", used during the Renaissance by Florentine bankers, who used to make their transactions above a desk covered by a green table cloth. However, there are traces of banking activity even in ancient times. An asset becomes nonperforming when it stops to generate income for the bank in the form of interest and principal. A 'non-performing asset' (NPA) was defined as a credit facility in respect of which the interest and/ or installment of principal has remained 'past due' for a specified period of time. Presently it is 90 days. Non-Performing Assets (NPAs) can be defined as "A loan where the lender has some doubt of is experiencing difficulties in obtaining repayments & irrespective of time frame, the outcome could be a loss of capital" (Sing and Modiyani 2013)

**FACTORS CONTRIBUTING FOR RISE IN NPAS**

There are many reasons which are responsible for making a loan as a bad loan or non performing asset. For a business, it could be because it fails to take off. Such a situation may arise because of sudden health expenditure or job loss or death. Often, it can be because of over-debt, when consumers borrow against most of their assets and, may be, have unsecured loans too. In such a case, any hit on income can disturb all repayments of borrower. They, however, can file for bankruptcy under the Bankruptcy Code. In India, the situation has worsened due to banks aggressively pushing loans, even unsecured loans, to individuals to prevent idle assets on their books. President and founder of International Consumer Rights Protection Council, an NGO, says most customers in India are not financially educated and banks are luring them to take more and more loans, often without checking their financial position. Some of the factors which are responsible for conversion of loans into NPA are discussed as follow.

**EXTERNAL FACTORS**

**Ineffective Recovery Tribunal:** The Government has formulated a of numbers of recovery tribunals, which works for recovery of loans and advances. Due to their negligence and ineffectiveness of Recovery Tribunal in their work, the bank suffers the consequence of non-recover of NPAs, which affects the profitability and liquidity of Indian commercial banks.

**Willful Defaults:** There are borrowers who are able to pay back loans but they are intentionally withdrawing it because they expect some sort of reliefs from government. These groups of people should be identified and proper measures should be taken in order to get back the money extended to them as advances and loans.

**Natural Calamities:** This is the major factor, which is responsible for rise in NPAs of commercial banks not in India but whole of world. India is hit by major natural calamities which make the borrowers unable to pay back their loan installments. Mainly our farmers depend on rain fall for cropping, due to irregularities of rain fall the farmers are not to achieve the production level thus they are not repaying the loans.

**Industrial Sickness:** Improper project handling, ineffective management for projects, lack of adequate financial and other resources, lack of modern technology, changes in government policies give birth to industrial sickness. Hence the banks that provide finance to industries ultimately end up with a low recovery of their loans.

**Lack of Demand:** Entrepreneurs in India, without predicting the demand of their products start production which ultimately piles up their product thus making them unable to pay back the money they borrow to operate these activities.

**Change in Government Policies:** Changing in government policies also responsible for increase of NPA in Indian banking sector. The fallout of handloom sector is continuing as most of the weavers Co-operative societies have become default largely due to withdrawal of state patronage. The rehabilitation plan worked out by the Central Government to revive the handloom sector has not yet been implemented. So the over dues due to the handloom sectors are becoming NPAs.

### **INTERNAL FACTORS**

**Defective Lending process:** There are three cardinal principles of bank lending that have been followed by the commercial banks since long.

- (i) Principles of safety,
- (ii) Principle of liquidity and
- (iii) Principles of profitability

The banker should, therefore take utmost care in ensuring that the enterprise or business for which a loan is sought is a sound one and the borrower is capable of carrying it out successfully.

**Inappropriate Technology:** Due to inappropriate technology and management information system, market driven decisions on real time basis cannot be taken. Proper Management Information System (MIS) and financial accounting system is not implemented in the banks, which leads to poor credit collection, thus it leads to increase in NPAs.

**Improper SWOT Analysis:** The improper strength, weakness, opportunity and threat analysis is another reason for rise in NPAs. While providing unsecured advances the banks depend more on the honesty, integrity, and financial soundness and credit worthiness of the borrower. Banks should consider the borrowers own capital investment. • It should collect credit information of the borrowers from bankers; enquiry from • market/segment of trade, industry, business and from external credit rating agencies.

**Analyze the Financial Statements:** True picture of business will be revealed on analysis of Profit and loss Account and Balance Sheet. Purpose of the loan: When bankers give loan, it should analyze the purpose of the • loan. To ensure safety and liquidity, banks should grant loan for productive purpose only. Bank should analyze the profitability, viability, long term acceptability of the project while financing. Poor Credit Appraisal System:

Poor credit appraisal is another factor for the rise in NPAs. Due to poor credit appraisal the bank gives advances to those who are notable to repay it back. They should use good credit appraisal to decrease the NPAs.

### **IMPACT OF NPAs**

The three letters “NPA” strike terror in banking sector and business circle today. The impact of NPAs on banks is significantly visible on the following areas:

**1 PROFITABILITY:** NPAs means blocking of funds in terms of bad asset, which occurred due to wrong choice of borrowers. Because of the money getting blocked the profitability of bank decreases but NPA increases opportunity cost also as that much of profit invested in some return earning project/asset.

**2 LIQUIDITY:** Money is getting blocked, decreased profit lead to lack of enough cash and which lead to borrowing money for short period of time which leads to additional cost to the bank. Difficulty in operating the functions of bank such as routine payments and dues is another cause of NPA.

**3 INVOLVEMENT MANAGEMENT:** Time and efforts of management is another hidden cost which bank has to bear due to NPA. Time and efforts of management in handling and managing NPAs consume time and cost.

**4 CREDIT LOSS:** Bank is facing problem of NPA then it adversely affect the value of bank in terms of market credit. It will lose its goodwill and brand image and credit which have negative impact to the people who are putting their money in the banks

### **LITERATURE REVIEW**

The issue of NPAs has been a major area of concern for the lenders and the policymakers. Various research studies have been made to understand the causes contributing to the rise in NPAs, measures that should be taken to resolve the issue in its nascent stage and reforms that have come into effect to reduce the piling up of NPAs. Some of the relevant studies are arranged in a chronological sequence.

Barge (2012) examines that early monitoring and management of lent funds is the necessity of the hour. The study suggests several measures like better supervision of end use of funds, information about the credit history of the borrower and assisting the borrowers to develop entrepreneurial skills to ensure that the asset does not convert into a non-performing asset. Gupta (2012) makes a comparative study of the position of NPAs of State Bank of India (SBI) and associates and other public sector banks. The researcher concludes that for evaluation of the solvency of borrowers each bank should set up a separate credit rating agency. It also suggests the need for a committee comprising of financial experts to supervise and monitor the issue of NPAs.

Shalini (2013) has analysed the causes and suggested remedies for reducing NPAs in Indian public sector banks with special reference to the agricultural sector. The analysis of the different problems faced by the Indian farmers deduces the conclusion that banks should follow some measures before lending the loan.

Singh (2013) in the investigation on the position of Indian commercial banks with regard to NPAs finds that these poor quality loans are a major problem for the public sector banks, which show a consistent rise over the years. The main contribution comes from the loans directed at the micro sector and for poverty alleviation programmes.

Bhaskaran *et al.* (2016) in their paper have compared the NPAs of public sector banks and private sector banks over a period of ten years (2004-2013). From their study, it is evident that private sector banks are performing better than public sector banks in reducing the level of NPAs. The authors propose that banks should be proactive in adopting structured NPAs management policy where prevention of NPAs receive priority.

Thomas and Vyas (2016) in a recent study on loan recovery strategy of Indian banks suggests two measures, preventive and corrective. The paper also discusses several corrective measures – legal, regulatory and non-legal that are to be taken to recover the non-performing loans.

Singh (2016) in another recent study on NPAs and recovery status find that the problem is more severe for the public sector banks compared to the private sector banks. The academic review points to the need to have strict lending policies for speedy recovery of loans.

Meher (2017) in the post-demonetisation period looks into the impact of the government's notebandi decision on the NPA of Indian Banks. The researcher finds both positives and negatives of the event on the banking industry.

Sengupta and Vardhan (2017) have compared the two banking crisis episodes post-liberalisation- one that took place in the late 1990s and the other that commenced after the 2008 global financial crisis that raised the issue of NPAs. The authors are of the view that strong governance, proactive banking regulations and a strong legal framework for resolution of NPAs would assist in solving the problem of NPAs. On the other hand, regulatory forbearance would adversely affect the banking crisis.

Mittal and Suneja (2017) have analysed the level of NPAs in the banking sector in India and the causes that have led to the rise in NPAs. They have proposed that though the government has taken a number of steps to reduce the problem of NPAs, bankers should also be proactive in adopting well-structured policies to manage NPAs. The loan should be sanctioned after considering the return on investment of a proposed project and the credit-worthiness of the customers.

Sahni and Seth (2017) study the different causes responsible for rising NPAs and the impact it has on the operation of banks. The authors have mentioned several preventive and curative measures to control the NPAs. They have suggested that proper assessment regarding the credit-worthiness of the borrower should be done to ensure the speedy recovery of loans. Mishra and Pawaskar (2017) have recommended that banks should have a good credit appraisal system so as to avoid NPAs. They point out that the problem of NPAs can be solved if there is a proper legal structure to support the banks in recovery of debt.

Banerjee *et al.* (2018) have examined the status of gross NPAs and net NPAs in private sector banks and public sector banks to study their effect on the asset quality of the banks. Deliberate loan defaults, poor credit management policies, sanctioning of loans without analysing the risk-bearing capacity of the borrowers are the main reasons for piling up of NPAs.

Mukhopadhyay (2018), in his paper, has discussed about finding solutions to India's NPA woes. He has suggested that to resolve the problems of NPAs the RBI should not abide by a single model, instead, an innovative and flexible approach is needed for each affected bank, which should differ on case-by-case basis.

Kumar (2018), in her study has found that NPAs have a serious negative impact on the profitability and liquidity of the banking sector. According to her if the issue of NPAs is managed efficiently, then many microeconomic issues such as poverty, unemployment, imbalances of balance of payments can be reduced, the money market can be strengthened, and thus, the image of Indian banking system can be improved in the international market.

Sharma (2018) emphasises the role of the banking sector as an instrument of economic growth and development. The paper discusses how banks are burdened due to growing NPAs especially in case of public sector banks. The author states a number of preventive measures that would curtail the level of NPAs. Viable regulatory standards and timely implementation of them could pave the way for a strong financial sector in India.

Dey (2018) in a very recent research paper looks at the recovery aspect of recovery of poor loans of the Indian commercial banks. The author finds the role of DRTs to be much better compared to the recovery through Lok Adalats and SARFAESI Act.

### **Methodology of Study**

Current study is based on Non Performing Assets in Scheduled Commercial Banks which includes public sector banks, private sector banks and foreign banks which are listed in the Second Schedule of the Reserve Bank of India Act, 1949. The study is based on secondary data. The paper discusses the conceptual framework of NPA and it also highlights the trends, status and impact of NPA on scheduled commercial banks. Several reputed research journal including research paper and articles have been used by the researchers. Moreover, RBI Report on Trend and Progress of Banking in India for various years, websites and a book on banking has been referred during the study

### **Sources of Data**

The data collected is mainly secondary in nature. The sources of data for this thesis include the literature published by Indian Bank and the Reserve Bank of India, various magazines, Journals, Books dealing with the current banking scenario and research papers.

### **OBJECTIVES OF THE STUDY**

To study the status of Non Performing Assets of Indian Scheduled Commercial Banks in India.

To study about recovery channels of NPA used by commercial banks in India

To study and compare the performance of Lok Adalat method of recovery of NPA.

To suggest some measures for effective recovery of NPAs.

### **RECOVERY CHANNELS**

Some measures are formulated and implemented to maximize the NPAs recoveries in Indian banking. The Central government and RBI have implemented strict policy for controlling incidence of fresh NPAs and creating legal and regulatory environment to facilitate the recovery of existing NPAs of banks. They are:

#### **One Time Settlement Schemes**

This scheme covers all sectors sub – standard assets, doubtful or loss assets as on 31st March 2000. All cases on which the banks have initiated action under the SRFAESI Act and also cases pending before

Courts/DRTs/BIFR, subject to consent decree being obtained from the Courts/DRTs/BIFR are covered. However cases of willful default, fraud and malfeasance are not covered.

**Debt Recovery Tribunals (DRTs)**

The Debt Recovery Tribunals have been established by the Government of India under an Act of Parliament (Act 51 of 1993) for expeditious adjudication and recovery of debts due to banks and financial institutions. The Debt Recovery Tribunal is also the appellate authority for appeals filed against the proceedings initiated by secured creditors under the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act.

**Securitization and SARFAESI Act**

Securitization is considered an effective tool for improvement of capital adequacy. Securitization can also help in reducing the risk arising out of credit exposure norms and the imbalances of credit exposure, which can help in the maintenance of healthy assets. The SARFAESI Act intends to promote Securitization, pool together NPAs of banks to realize them and make enforcement of Security Interest Transfer. The SARFAESI Act - 2002 is seen as a booster, initially, for banks in tackling the menace of NPAs without having to approach the courts.

**Lok Adalats**

Lok Adalat institutions help banks to settle disputes involving account in “doubtful” and “loss” category, with outstanding balance of Rs. 5 lakh for compromise settlement under Lok Adalat. Debt recovery tribunals have been empowered to organize Lok Adalat to decide on cases of NPAs of Rs. 10 lakh and above. This mechanism has proved to be quite effective for speedy justice and recovery of small loans. The progress through this channel is expected to pick up in the coming years. According to RBI guidelines, banks can use **Lok Adalats** to **recover** loans up to Rs 20 lakh. Recovery through award of Lok Adalat is the easiest and fastest mode of recovery. The literal meaning of Lok Adalat is people’s Court. The concept comes under the ‘**Alternative Disputes Redressal Mechanism**’ like arbitration, conciliation etc. The pre-litigation up to Rs.20 lacs and suit filed accounts where plaint amount does not exceed Rs.20 lacs can be settled through Award of Lok Adalat. The Lok Adalat is constituted under section 19 of Legal Services Authority Act,1987

**Method of organizing Lok Adalat:**

The manager of the Bank shall contact the borrowers and negotiate with them the terms of settlement. The Manager should convince the borrowers about the benefits of settling the matter via Lok Adalat. The branch office has to take their higher office permission/sanction wherever necessary, with regards to proposed terms of settlement.

The Legal Service Authorities shall be approached by the bank to conduct Lok Adalat along with a list of the accounts where settlement is feasible. The Legal Service Authority fixes the date of Lok Adalat and informs the same to the bank. The bank in tern shall service notice to all the parties concerned. The concerned branch of the bank should personally contact the borrowers and ensure that all parties be present at Lok Adalat on the date fixed.

The Lok Adalat will be convened on the date fixed and **same day award will be passed**. The award is final and binding on all the parties.

1. Every award of the Lok Adalat is equivalent to a decree of a Civil Court.
2. OTS (One Time Settlement) can be put through Lok Adalat, so that on default, the award could be executed by the Court (Like execution of decree).
3. No appeal will be entertained against the award of Lok Adalat.
4. No case could be instituted in any Court with regard to case decided by Lok Adalat.
5. Entire Court fee paid for filing suit will be returned back and no lawyer fee is payable.
6. The award can also be passed on a holiday

**Lok Adalats Performance in Last 5 years ( Amount in billion)**

Item	2014-15	2015-16	2016-17	2017-18	2018-19
No. of cases referred	91,31,199	44,56,634	35,55,678	33,17,897	40,80,947
Amount involved	887	720	361	457	53,5
Amount recovered	43	32	23	18	2,8
% of amount recovered	4.8	4.4	6.3	4.0	5.3

NPA issue in India is a matter of concern if we analyze the above table in 2014-15, 91,31199 cases of NPA dispute transferred by banks to Lok Adalat which involves amount of Rs. 887 billions, which again a matter of concern. In this year amount recovered is only Rs. 43 billions. If we see success of Lok Adalat in terms of percentage in between 4% to 6.3% in last 5 years. It is 4.8% in 2014-15 and 5.3% in 2018-19, which seems to very constant

### **SUGGESTIONS TO IMPROVE RECOVERY PERFORMANCE OF BANKS**

Following suggestions were given by the respondents for improving recovery performance. Adequate and Suitable manpower should be given for recovery: All the powers & authority regarding NPA Management should be given to the branch. Although it is a good suggestion, the controlling office had different view. According to controlling office the branch manager may or may not be able to shoulder the responsibility as the branch manager may not have the benefit of expertise /experience at his level, which is required for exercising such authority.

1. Improvement in Recovery Act: Many State Governments have very effective recovery act such as M., P. State Recovery Act which is very effective and useful for bank bankers. The

State Government gives target for recovery to official of revenue department and simultaneously gives incentive for recovery also. This issue was discussed in the state level forum about the improvement in state recovery act. The modifications to the act are still awaited. The act in the present form is not very effective.

2. Recovery Action: The branches under study had no cases where they had to approach DRT or initiate action under Securitization Act as the minimum amount to be recovered in such cases should be Rs. 10 lakhs and above. The officials are well aware of the benefits of Lok Adalat but had no occasion to present the cases in the forum. The officials were not aware whether lok Adalats were held in the district.

3. Filing Civil Suits: As regards filing civil suits for recovery, these cases take time to settle as they are treated as like any other litigation and do not get any priority. Further, proving documents by oral evidence is also cumbersome and times consuming as the officers who have obtained the documents are to be called from their place of present posting. The security obtained is also deteriorated due lapse of time. Additionally, the branch has to take permission to file suit, engage lawyer and spend the money to obtain and execute decree. Filing civil suit is therefore the last resort.

4. Recovery Camps: The recovery camps are organized by the revenue officials for recovery under government programs in the district. Such camps were arranged in the block where the branches under study are located. However, the Branches under study did not have opportunity to participate in such camps.

5. Discussions in DLCC/BLCC: These forums discuss the recovery position in the district, particularly under Priority Sectors and Government Programs. However, the discussions are of general nature with suggestions to improve recovery.

6. Awareness among the Customers: There was no awareness among the customers about the concept of NPA and its impact on the bank. Majority of the customers/borrowers could not give specific reasons for non-repayment indicating there-by-there intention not to repay. Some of the customers stated their personal problems for non-payment of banks dues, while other reasons given include bad quality of assets, natural calamities and problem of receivables. The customers were aware of the effect of overdue on bank in terms of decreasing profit and loss of business.

### **7. SUGGESTIONS BY CUSTOMERS**

a) The customers/borrowers suggested that the customers training and awareness are the most effective way to improve recovery. According to some of them rephrasing repayment schedule in selected cases will improve recovery.

b) Proper identification of borrower and the purpose of loan, careful scrutiny of the project, repayment capacity, close follow up and monitoring.

c) Government assistance and help in case of genuine defaulters.

d) Understanding borrower's problems by the bank officials.

e) Priority to those borrowers who have repaid their loans promptly.

f) Concession in interest for prompt repayment.

8. Communication with Bank about Problems Faced: More than half of the customers do not communicate their problems to the bank. However, those who approached the bank with their problems/difficulties got solution to their problem or relief in repayment.

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**CUSTOMERS PERCEPTION TOWARDS LIFE INSURANCE INVESTMENT DECISION**

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**ABSTRACT**

*People save their earnings in different available options like gold, real estate, banks, financial market and Insurance. Insurance is one form of savings which provides the assurance against risk or uncertainties of future. It works on the basic principle of risk-sharing. A great advantage of insurance is that it spreads the risk of a few people over a large group of people exposed to risk of similar type.*

*Being the second most populated country of world India is still a country where the average selling of Life insurance policies is still lower than many countries. The individuals have their own perception on investment towards Life Insurance Services. The present study is an attempt to find out the determinants of Customers perception towards Life Insurance Investment decision. This research is focused on customer's belonging different demographic levels. The validity, reliability and explanatory factor analysis tests are applied to make the study more effective and reliable. Finally the significance of the results has been tested applying independent t-test and one way anova test.*

*Keywords: Life insurance, Customer, Investment, Perception, India*

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**CONCEPTUAL FRAMEWORK LIFE INSURANCE**

Life insurance is a contract between an insured (insurance policy holder) and an insurer or assurer, where the insurer promises to pay a designated beneficiary a sum of money (the "benefits") in exchange for a premium, upon the death of the insured person. Depending on the contract, other events such as terminal illness or critical illness can also trigger payment. The policy holder typically pays a premium, either regularly or as one lump sum. Other expenses (such as funeral expenses) can also be included in the benefits. Life policies are legal contracts and the terms of the contract describe the limitations of the insured events. Specific exclusions are often written into the contract to limit the liability of the insurer; common examples are claims relating to suicide, fraud, war, riot, and civil commotion.

**PERCEPTION**

Perception is defined as "the process by which an individual receives, selects, organizes, and interprets information to create a meaningful picture of the world". Individuals act and react on the basis of their perceptions, not on the basis of objective reality. It's more important for a marketer to know the customers' perception than their knowledge of objective reality. What consumers think about a product and what it actually is affects their actions. Individuals make decisions and take actions based on what they perceive. It is very important to marketers to understand the whole impression of perception and its related concepts, so they can more readily determine what factors influence customers to buy.

**INVESTMENT**

Investment is time, energy, or matter spent in the hope of future benefits actualized within a specified date or time frame. Investment has different meanings in economics and finance.

In economics, investment is the accumulation of newly produced physical entities, such as factories, machinery, houses, and goods inventories.

In finance, investment is buying or creating an asset with the expectation of capital appreciation, dividends (profit), interest earnings, rents or some combination of these returns. Most or all forms of investment involve some form of risk, such as investment in equities, property, and even fixed interest securities which are subject, among other things, to inflation risk

**REVIEW OF LITERATURE**

Tiwari and Yadav (2013) comparatively analyzed Investor's Risk perception towards public and selected private life insurers in Jabalpur district of Madhya Pradesh. They conducted the study with the help of questionnaire administered by 200 potential investors. In result it was found that according to present economic situation calls for a collaborative approach where both LIC and private players can come together and increase market penetration and the most important efficiency through innovative products, quality customer services and ethical conduct of business.



Sahu et al (2009) studied the buying behavior of consumers towards life insurance policies by collecting the data from 150 respondents in Gwalior region and found that the consumer's perception towards life insurance policies is positive and they also stated the major factors playing role in development of consumer's perception towards life insurance policies like Consumer loyalty, service quality, ease of procedures, satisfaction level, company image and company client relationship.

Yadav and Tiwari (2012) conducted a study on factors affecting customers investment towards life insurance policies with the questionnaire sample size of 150 policyholders of lic in Jabalpur district of MP, India. They resulted that there are many factors which affect customers investment decision in life insurance and the demographic factors also play a major role in taking decision of purchase of Life insurance policies.

Ahmed A. (2013) researched on the perception of life insurance policies in rural India and said that there are various factors behind the consumer buying decision when they plan to invest in insurance schemes. The factor can be good returns, risk coverage, insurance company name or the knowledge parameters of the consumers and they further stated that rural market is not sleeping any longer, the insurance players are.

Deb B. (2013) scrutinized the consumer preference in Life Insurance in Guwahati city and said that consumers buying behavior initiated by number of factors like psycho graphical, economical, social, politico legal and demographical with this the respondents expects more benefits now than single benefit offered by an insurance product. They also listed insurance companies according to their preference, the first one Lic, followed by ICICI and Birla sunlife insurance companies limited.

Akila M. (2013) conducted a study on customers' perception towards Lic health insurance plans in Salem city with the total sample of 352. Study concluded that the actual perception of the customers' is that LIC never lags behind compare to private players' product in health insurance and majority of respondents are satisfied after investing in health insurance plans of LIC.

Dash and Sood conducted a empirical study that why should one invest in a life insurance product. They gathered data from 215 life insurance customers in Rajasthan and concluded that the consumers purchase the life insurance with the aspects of a tax saving plan, a good return scheme, financial security for family, risk coverage as the important ones by the majority and the respondents did not consider the pension aspect of the product. Hence, the life insurers have to work harder to convince the customers to buy product as pension package.

### **OBJECTIVES OF THE STUDY**

1. To design develop and standardize the measure to evaluate the determinants of Customers perception towards life insurance investment decision.
2. To find out the determinants of Customers perception towards life insurance investment decision on different demographic factors like gender, age, occupation and income.
3. To find out underlying factors of Customers perception towards life insurance investment decision.
4. To open new vistas for further researches.

### **RESEARCH METHODOLOGY**

The Study: It was exploratory in nature and self designed questionnaire was used in the survey for Data collection.

**Sample Design:** 150 valid samples were collected from the population of Gwalior Region, India.

Tools used for Data collection: Although standardized measures were available to evaluate the variables of the study but measures have been tested and standardized in the western context and therefore Indian context self design measures was used to evaluate all the variables of the study. The measures were checked for the reliability and consistency before the data is processed for further analysis.

### **TOOLS USED FOR DATA ANALYSIS**

1. Reliability test was applied to check the reliability of the questionnaire with the help of Cronbach Alpha.
2. Factor analysis was applied to find out the underlying factors of Customers perception towards life insurance investment decision
3. T-test was applied to compare the Customers perception on gender basis.
4. Annova test was applied to compare the Customers perception on different demographics like Occupation, Age and Qualification.

**RESULTS AND DISCUSSIONS**

Reliability: Cronbach’s Alpha method has been applied to calculate reliability of all items in the questionnaire. Reliability test using SPSS software and the reliability test measure is given below:

**Reliability Test**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.753	.753	21

Here both the variables i.e. Brand Experience and Brand Relationship Quality have reliability value higher than the recommended value of .7, so all the items in the questionnaire are highly reliable.

**Factor Analysis**

KMO test was applied to check the normal distribution and sample adequacy and Bartlett’s Test has been applied to check the identity matrix and to find out whether data is suitable for factor analysis or not.

Table below shows that the value of KMO is greater than 0.5, so we can say the data is adequate as well as normally distributed. The results of Bartlett’s Test is also significant as the value is below 5% i.e. .000

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.699
Bartlett's Test of Sphericity	Approx. Chi-Square	521.508
	Df	210
Sig.		.000

**Factor Analysis**

Factor No	Factor Name	Eigen Value	% Of Variance Explained	Variable No	Variable Statement	Loadings
1.	Financial	2.270	10.809	01	More secure than	.686

	security & Saving plan				other investment option	
				04	Perfect financial security for family	.666
				06	Tool for saving	.624
				02	Retirement plan	.529
				18	Extra features like bonus and money back schemes	.410
2.	Risk sharing	1.834	8.731	03	Releases tax burden	.690
				05	Shares the risk of life	.678
				10	Insurance company diversifies funds strategically	.494
3.	Low Transactional Expenses	1.746	8.313	13	Low transactional cost	.697
				19	Lesser purchasing expenses	.686
				17	Traditional mode of investment	.509
4.	Systematic Investment	1.678	7.988	11	Time value of money	.744
				21	Systematic saving criteria	.624
5.	Flexibility	1.624	7.732	14	Flexibility towards payment mode of premium	.640

				09	Good corporate brand image	.616
				15	Rebate offer from insurance company	.501
				12	Creates financial burden on me	.461
6.	Returns	1.373	6.536	07	Favorable returns	.761
				20	Covers financial and personal risk	.535
7.	Portfolio Management	1.345	6.405	08	Requirement of my financial planning	.702
				16	Good historical background of financial manager	.670

**Discussion of Factors:** The results of factor analysis have clubbed 21 statements into seven factors and discussions of factors are given as under:

- 1. Financial Security and Saving Plan:** Economic security, the condition of having the resources to support a standard of living now and in the foreseeable future. Saving plan is the investment in which individual contributes money on a regular basis in order to reach a financial goal on a short or long term basis. This factor has got the first highest Eigen value of 2.270 and percentage of variance explained was 10.809
- 2. Risk sharing:** A self-insurance method of managing or reducing exposure to risk by spreading the burden of loss among several units of an enterprise or business syndicate. Risk retention pools formed with the contributions of participants are often utilized as a way to self insure risks among multiple entities. This factor has got the second highest Eigen value of 1.834 and percentage of variance explained was 8.731
- 3. Low transactional expenses:** Transaction Costs' Expenses incurred when buying or selling securities. Transaction costs include brokers' commissions and spreads (the difference between the price the dealer paid for a security and the price the buyer pays). This factor has got the third highest Eigen value of 1.746 and percentage of variance explained was 8.313
- 4. Systematic investment:** This is a plan where investors make regular, equal payments into a mutual fund, trading account or retirement account, such as a 401k. By using a systematic investment plan (SIP), investors are benefitting from the long-term advantages of dollar-cost averaging and the convenience of saving regularly without taking any actions except the initial setup of the SIP. This factor has got the fourth highest Eigen value of 1.678 and percentage of variance explained was 7.988
- 5. Flexibility:** Flexibility is the range of motion in a joint or group of joints, or, the ability to move joints effectively. Flexibility is related to muscle strength. Flexibility can be improved with stretching exercises. While stretching does not increase your muscle strength, it is an important part of reducing injury risk and soreness that result from activity. This factor has got the fifth highest Eigen value of 1.624 and percentage of variance explained was 7.732
- 6. Returns:** The gain or loss of a security in a particular period. The return consists of the income and the capital gains relative on an investment. It is usually quoted as a percentage. This factor has got the sixth highest Eigen value of 1.373 and percentage of variance explained was 6.536
- 7. Portfolio Management:** The art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance. This factor has got the lowest Eigen value of 1.345 and percentage of variance explained was 6.405

**ANOVA**

**H0 (1): There is no effect of age differences on life insurance investment decisions.**

	Sum of Squares	Total Df	Mean Square	F	Sig.
Between Groups	710.677	3	236.892	2.555	.058
Within Groups	13539.117	146	92.734		
Total	14249.793	149			

The p value = 0.058 > 0.05, hence we have not rejected the null hypothesis.

—There is no significant difference between life insurance investment decision and age basis. |

**H0 (2): There is no significant difference between life insurance investment decision and income basis.**

ANOVA					
		Total			
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	314.095	4	78.524	.817	.516
Within Groups	13935.698	145	96.108		
Total	14249.793	149			

The p value = 0.516 > 0.05, hence we have not rejected the null hypothesis.

—There is no significant difference between life insurance investment decisions and income basis. |

**H0 (3): There is no significant difference between life insurance investment decision and qualification basis.**

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.647	3	3.882	.040	.989
Within Groups	14238.146	146	97.522		
Total	14249.793	149			

The p value = 0.989 > 0.05, hence we have rejected the null hypothesis.

—There is no significant difference between life insurance investment decisions and qualification basis. |

**H0 (4): There is no significant difference between life insurance investment decision and occupation basis.**

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	279.483	4	69.871	.725	.576
Within Groups	13970.311	145	96.347		
Total	14249.793	149			

The p value = 0.576 > 0.05, hence we have not rejected the null hypothesis.

—There is no significant difference between life insurance investment decisions and occupation basis. |

T-Test

Independent t-test is applied to compares the means between two unrelated groups on the same continuous, dependent variable. Here we have applied the independent t-test to understand the deference of mean between life insurance investment decision (dependent variable) and gender of respondents as (independent variable).

**H0 (6): There is no significant difference of mean between life insurance investment decision and gender basis**

Group Statistics						
	Gender	N		Mean	Std. Deviation	Std. Error Mean
Total	dimension1	1.00	70	70.1714	10.42985	1.24661
		2.00	80	75.9875	8.32944	.93126

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the

									Difference	
									Lower	Upper
Lii d	Equal variances assumed	2.157	.144	- 3.794	148	.000	-5.81607	1.53311	- 8.84569	- 2.78645
	Equal variances not assumed			- 3.738	131.682	.000	-5.81607	1.55604	- 8.89415	- 2.73800

On the basis of independent sample t-test column labeled Levene's Test for Equality of Variances, which indicates the p value (.144) which is greater than standard value (.05) so, H0 is not rejected.

—There is no sig. difference of mean between life insurance investment decision and gender basis.!

**CONCLUSION**

The study performed necessary analysis to derive the research. The questionnaires were filled by individual respondent and Cronbach’s Alpha reliability test was applied. Factor analysis test was applied to find out the underlying factors to know the perception of customers towards making Life insurance investment decision. Many factors have come out from this study which reflects their perception. Independent T- test was applied to compare the perception of customers towards making Life insurance investment decision on gender basis. It has been concluded by testing the hypothesis and following results were obtained that there is no significant difference between gender and customers’ perception towards making Life insurance investment decision and One-way ANOVA test was applied to know the differences between customers’ perception towards making Life insurance investment decision and occupation, age, qualification. It has been concluded by testing the hypothesis and following results were obtained that there is no significant difference between customers’ perception towards making Life insurance investment decision and occupation, qualification and age basis.

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**INDIAN EDUCATION SYSTEM VIS-À-VIS EDUCATION 4.0: A RESEARCH REVIEW**

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**Dr. Ruchi Tandon and Dr. Sanjeev Tandon**

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**ABSTRACT**

*This research reviews the existing literature on education 4.0. The 21<sup>st</sup> century will be requiring intellectually intensive jobs and gradually the activities with human intervention will be replaced by machines. The fourth industrial revolution (IR4.0) is changing the world around us. IR4.0 has a key role in the evolution of education system. In the era of artificial intelligence (AI), robotics, big data, autonomous vehicles, bio and nanotechnology, 3-D printing, quantum computing, material science, energy storage and internet up-gradation, the teaching-learning process in India needs a relook. Even the various degree / diploma academic qualifications require a serious thinking. Do we really need various degree programs which have lost its sheen in the contemporary industrial environment (IR4.0)? The IR4.0 wave has compelled educators to align human skills with the innovative technologies, now being termed as disruptive technologies across the globe. The workforce required by the industries (various business units) would be an opportunity being created by advanced technologies. Thus, Indian education system has to cope-up with the requirements of IR4.0. In the era of industrial revolution 4.0 (IR4.0), all the schools and colleges should have the curriculum and training matching the job requirements. Incidentally, these requirements of work force are different from industrial revolution 3.0 & 2.0. Education 4.0 is a response to the needs of IR 4.0. Ideally speaking, Indian education system has been guided to change the gear from education 3.0 to education 4.0. Are we preparing the country for education 4.0 in our educational system? The present research paper investigates about the awareness and the readiness of the various stakeholders with special reference to Education 4.0 at Delhi-NCR. The knowledge about education 4.0 among stakeholders has been investigated. Ministry of Human Resource Development (MHRD) needs to gear-up, developing appropriate academic programs and curriculum from school level to the higher education. Variety of skill development universities, mapping the contemporary job positions need urgent attention and planning. More concerted marketing efforts are required with a public- private partnership, to create awareness about IR4.0 and education 4.0. The requirements of IR4.0 are to be loudly and effectively communicated to the educational institutes (schools & universities). Relevance of education 4.0 in the contemporary job scenario has to be marketed rigorously.*

*Keywords: Education 4.0, Education System, Education 3.0, 2.0 & 1.0, Industrial Revolution 4.0 (IR4.0), Artificial Intelligence (AI), Big Data Analytics, Industrial Revolution 3.0 & 2.0.*

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**1. INTRODUCTION**

The social economy has been evolving steadily across the globe. The different phases of social economy (Economy 1.0- 4.0) in their respective era urged for a unique skill set of human capital. Digital society has transformed daily lifestyle of an individual. The lifestyle of people across the globe has been evolved irrespective of distance, time and places. The digital society has become more updated and it connects every individual globally with a wider vision. Digital revolution and technology advancements have transformed framework of the education system. Right from the start, during the journey of human civilization in the past 250 years, the four industrial revolutions have significantly affected the education system. The digital social economy has evolved with the passage of time. The society had very briskly moved from steam engine era (1780: IR1.0), to the production era (1900: IR2.0), then entering into the computer era (1970: IR3.0) and the era of internet connecting computers (2000:IR4.0). During IR1.0, the education was a luxury for the rich. The society had very little expectation that, the children would go for any education. The employment was typically with on the job apprentice training. With the onset of IR2.0, industry had requirement of skilled workers, who ought to be literate. The workforce had majorly literate people, who learn the basic skills of the trade faster. The education system was more inclined to serve the needs of the industrial requirements. The subsequent era of IR3.0 had introduced computers. Technology gradually started overpowering industries and the multifaceted uses of computers became evident. Human intervention for various job works in the industrial setup started reducing. The industrial system had become more mechanized during IR3.0. IR4.0 was first introduced in 2011, at the Hannover Fair and this term had been represented under the title of intelligent production (Mehmet Baygin, Hasan Yetis, Mehmet Karakose and Erhan Akin 2016). The time has now reached to bring education into the 21<sup>st</sup> Century. Manufacturing, during this phase of Industry 4.0 concept, is moving to the next phase of digitalization. The fourth industrial revolution (IR4.0) has changed the world around us. Artificial intelligence (AI), robotics, big data analytics and internet revolution has impacted industrial job market. In this era of IR4.0 some of the professions will be replaced. These emerging innovations have significant effect on the education of people. Creativity is the cornerstone of IR 4.0. Only qualified, highly educated and skilled employees will be

able to control the innovations of the industrial setup. The innovative technologies have brought in smart media, and thus a revolution in education system from education 3.0 to education 4.0. The industries will have efficient operations and the modus-operandi would be machine-machine, human-machine or human-human. Large data (Big Data) would be analyzed to predict possible failures. The knowledge, qualification framework and regular staff training will be an essential part of IR 4.0. Prognosis-monitoring system has started replacing human operated machines. Virtual learning environments (VLEs) will enhance efficiency of companies. Big companies would be establishing training schools for highly skilled job opportunities. Effective production will be the key as per the changing customer demand. Companies will be more into producing smart products. The IR4.0 wave has ultimately revolutionized the education system and has become more demanding and innovative with the advent of internet age. 4.0, this code had initially been used to mark the disruptive change, which takes place in the manufacturing industry through the pervasive application of Information and Communication Technology (ICT), coining the term Industry 4.0. In the era of smartphone classrooms and online exams, robotics has entered deep into our day to day working, as house help or workplace companions. Globally in the education space a trend has been developed for the young professionals to meet the requirements of various industries. The efforts were focused to drive students to become valuable members of the workforce and independent problem solvers. Thus, intellectually intensive jobs of 21<sup>st</sup> century have impacted the education system. Education 4.0 has become a buzzword among educationists across the globe. In developed countries some universities are already developing an education 4.0 experience for the students. But for shaping this new world and expectations of students, we need more planned and systematic collaboration across sectors. To take full advantage of the opportunities created by advanced technology, education system in India needs overhauling. Do educators in India keen to understand the changing dynamics? India is no exception in this ever changing world, but, to learn the dynamics and requirements of IR4.0. How far we are successful molding our education system in sync with IR4.0, is yet to be investigated?

In the contemporary world of fast changing technology and information overload, students need to be trained and not taught. They should learn how to access relevant information, rather than the teacher offering to them the information in a rigid structure. Educators should always bear this in mind that, students are not alike and they don't have the same starting point. Education 4.0 needs to be aligned with industry 4.0 so that; the students should be made capable to grab job opportunities in the contemporary world. As digitalization increases its effects in modern manufacturing, producing promising results, more and more companies are marching towards integrating industry 4.0 technologies in their systems. The applications are targeting all the steps of design and production, exploiting the increasing acceptance of mobile device applications and internet of things and the advanced connectivity capabilities offered by modern networks (Hermann, M., Pantek, T., & Otto, B. 2016). Mobile devices provide a digitalized input device, that integrates customers in product design (Mourtzis, D., Vlachou, E., Siganakis, S., Zogopoulos, V., Kaya, M., & Bayrak, I.T. 2017). Industry and education system should be aligned. The fast paced innovations have made the world more dynamic. The advancement in information technology has transformed the society from agricultural society to industrial society. Manufacturing process with digitalization and intelligentization is the need for today's industry. The manufacturing industries have shifted from mass production to customized production. Industry 4.0 includes internet of things, industrial internet and smart manufacturing. It focuses strictly on the integration of human in manufacturing process. The 4.0 scenario describes industrial revolution with full automation and digitalization processes. The use of electronics and information technologies (IT) in manufacturing and services in a private environment are evident in industry 4.0. The development and integration of a consumer in the mode of cyber-physical systems have led to the emergence of consumer behaviour related to 4.0 (Dominici et al., 2016). The industry 4.0 has conceptualized the developmental projects such as smart cities and communities information, strategic roles of smart cities for tackling energy and mobility challenges. The industry4.0 and the contemporary education 4.0 have to analyse the potential of this wide-scale rollout of integrated smart cities and community's solutions (European Commission, 2015). The digital revolution is more experienced by paradigm shift to artificial intelligence (AI.), big data, and connectivity. The transformation of industry is more evident and supported by the changes in the processes, like, digitalization of production, automation and linking manufacturing sites in a comprehensive supply chain (automatic data interchange). The characteristics of industry 4.0 have increased the competitiveness through smart equipment, demographic changes, energetic efficiency and urban production. The business environment of smart factory, machine communications (M2M) and smart products are a subcomponent of the cyber-physical systems (Greengard, 2015, Kayermann, 2014). Thus, the youth has to keep pace in response to the current social changes. In the present industrial setup the production lines are highly flexible. This has given leverage to the education system to tailor made the learning path of students. The way in which industry 4.0 gives impetus to online quality control, in the similar manner education 4.0 has started formative assessment. Peers become very significant in the learning process in

education 4.0. The students learn together, along with their peer group, while the teachers assume the role of facilitators in this learning process. Secondly, the learning is not classroom centric; it can be taken place anytime anywhere. The guidelines followed in education 4.0 are of a flipped classroom approach. In this approach, interactive learning is done in the class and the theoretical parts are to be learned outside the class. No time bound learning is experienced here by the learner. Even the learning is kept personalized to an individual student and the process is also carefully administered. A high level learning task is introduced to a student, when certain level of understanding is developed. Moreover, a rigorous practice to the given task is availed by the instructor for the student, till the time mastery level is attained. Primarily, positive reinforcements are used to promote positive learning experience in education 4.0. In the teaching-learning process (& curriculum designing), the learning outcomes of a course are preset by the institutions/ governing bodies, but, the students are still free to choose the learning tools or techniques that they prefer. We can observe 4.0 being administered in variety of fields like, Healthcare 4.0 or Work 4.0 etc. The essence of education 4.0 for the academic educators is to remain agile and adapt to the necessary changes. The students' are to be prepared keeping in mind the fundamental principles of education 4.0 in sync with industry requirements. Teaching factories are an important way of practicing the technical knowledge that is included in the emerging education 4.0 concept. Education 4.0 considers, on the one hand the exploitation of the developed technologies (eg advanced visualization techniques that integrate virtual reality) to facilitate the teaching process and on the other hand the methods and the workshops that will familiarize the aspiring engineers with these technologies, as will work in industry 4.0 environments (Demartini. C., Benussi 2017). Teaching factories are an important way of practicing the technical knowledge that is included in the emerging education 4.0 concept. This is a holistic approach for moving from the traditional teaching factory to teaching factory 4.0, integrating cyber- physical systems and industry 4.0 technologies. (Demartini, C., & Benussi, L. 2017). Dunwill (2016) says that the advancement of advancement of technologies keeps on changing and transforming the teaching method and the setting of the learning process. Kozinski (2017) highlighted the following learning preferences of the Gen Z students. To perform the Industry 4.0, there are basically six different design principles. These are, respectively, interoperability, transparency of information, technical support, real-time data acquisition and processing, modularity and distributed decision (Mehmet Baygin, Hasan Yetis, Mehmet Karakose and Erhan Akin 2016). Industry 4.0 has design principles, implementing and conceptual approaches as lectures in higher education and training and / or dissemination. Industry 4.0 concept of course takes place as part of the course content. The goal of industry 4.0 is to remove physical labor by industrial robots. The dynamic use of industrial robotics requires programming and commissioning. Robot programmer performs all the activities. An important factor for industry 4.0 will be data security and data communication.

## **2. LITERATURE REVIEW**

The information and communication technology in the industrial revolution have brought in phenomenal transformations. (Pooworawan, 2005). The new pace of virtual world brings a sea change in the lifestyle of people. People have learnt to live in an environment of social media. Their knowledge and awareness have increased multifold. From Economy 1.0 era till the digital society economy, the life style of people has been evolved significantly (Luankaew, 2016). The changes in economy 1.0 have been slow but the results were highly encouraging. From an agrarian society, with less technical knowhow, the society has moved to the era of steam engines. During this era the work was shared among labors on the basis of the capability and fitness. Industrial revolution had brought in the phase of Economic 2.0. The next phase was Economy 3.0 had improved the work performance of an individual. The economy was more observing IT & ITES services. Changes have been phenomenal. The usage of solar steam engine, oil and electricity had improved the working process. The dynamic fast changing world has led to transformation from agricultural society to industrial society, with more advancement in information technology and innovation that is named as the Economy 4.0 era (Puncreobutr.Vichian 2016).To develop youths to use new technological applications for using intelligent agents, Mobile technologies, Cloud Computing and services (Nedeva and Dineva, 2012), it is very essential to search for new approach and ways in learning management; addition to the learning management of 21st Century Skills. Many concepts of the learning management for the 21st Century Skills are still very interesting or could be used, such as the concept of Zhoa (2012), Sinlarat (2016) and Gomaratat (2015). The concept of Zhoa (2012) is to arrange the learning process such as being in the real situation of working in the plant. As of Sinlarat (2016), there are 4 ways: 1) Critical-Based Instruction, 2) Creativity-Based Instruction, 3) Productivity-Based Instruction, and 4) Responsibility-Based Instruction. From Gomaratat (2015), arranged to adapt the Constructionist Learning, that are 3R, 3I and 3P. The 3R is Regulating the understanding, which consists of Recalling, Relating, Refining; the 3I is Investigating, that consists of Inquiring, Interacting, Interpreting; and 3P is producing, creating work by Participating, Processing, Presenting. Jeschke (2014) proposed that Social & Virtual Learning must be the Learning with social media, in large groups and in virtual environment, suggested



the process as: Massive Open Online Courses: MOOCs. While Teaching tools (edudemic, 2012) have stated the 10 powerful tools for future, namely, visual Learning, evolved currencies, personalization, gamification, social media, game-based learning, connectedness, crowdsourcing-it is distributed problem-solving and production model which has solved the problem through the process of Project-Based Learning, Digital and Physical Merge, which is cited and acknowledged by (Nedeva and Dineva, 2012). Industry 4.0 supported by innovative technologies such as internet of things, cloud technology, augmented and virtual reality will also play an important role in manufacturing education, supporting advanced life-long training of skilled workforce (D. Mourtzis, E. Vlachou, G. Dimitrakopoulos, V. Zogopoulos 2018). Dunwill (2016) says that the advancement of technologies keeps on changing and transforming the teaching method the setting of the learning process. Manufacturing is an ever-growing economic sector, with the requirement of 3 million new jobs over the next decade. He also predicted how an average classroom will look like in the next 5 to 7 years. A huge change in the layout of the classroom will be witnessed. Virtual and augmented reality will change the education landscape. The students' assignments will accommodate multiple learning styles. Massive Open Online Courses (MOOC) and other online learning options will impact secondary education. The Social and Economic Learning (SEL) being shared by the World Economic Forum report 2016b, states that 16 proficiencies for education are very crucial in the 21<sup>st</sup> century. The skill set which will remain in high demand by the industries are critical thinking, creativity, complex problem solving, emotional intelligence, cognitive flexibility, negotiation, judgment and decision making Relationships, service orientation and coordinating with others. Teachers / instructors need to equip themselves with digital tools and have to relearn to meet the expectations and learning preferences of Gen Z. They are purposive and serve to bring out meaning in a person's life and the formation of their personality (Aron & Elaine, 1996; Kelley, 1986). Every relationship provides psychological, sociocultural, and relational meaning and significantly adds meaning to the life of persons who engage in them. These relationships are generally influenced by demographic factors age, life cycle, gender, social network, and culture (Dion & Dion, 1996; Levinger, 1995). Gen Z welcome challenges and enjoy group discussion and highly interactive learning environment. Kozinski (2017) highlighted the following learning preferences of the Gen Z students. These students feel that learning is without boundaries and they can learn anywhere and anytime. They are confident to have access to new information. Active collaboration with their team members is an integral aspect of the learning process. They feel happy, when the learning is planned at places other than their classroom. Gen Z students are technology savvy and would love to use digital tools rampantly. The social learning platform has open learning (OL) platform, which is being used to host the content, tasks and assessment of the course. Data sciences, cloud computing, smart manufacturing, advanced robotics, artificial intelligence (AI) are more to be focused in the 4.0 era (Dunwill, E. 2016).

### 3. OBJECTIVES AND CONTEXT OF RESEARCH:

The vision of Industry 4.0 has introduced various new approaches and methodologies, along with innovative technologies. The challenges of this dynamic industrial environment have been magnificent. The concept seeks for elevated competencies, skills and qualifications. The job roles in the companies have also been evolved. The industrial requirements of robot programmer, process engineers, cloud system engineers, integrators, data analysts, cyber security technicians, process engineers, electronics technicians etc, cannot be satisfied with Education 3.0 system.

This study helps in developing insights about Education 4.0 and its awareness in Delhi-NCR. The research encircles the following objectives:

- i. To study the related literature on Industry4.0 and Education4.0.
- ii. To investigate the awareness level of Education 4.0 & the challenges posed by Industry 4.0.

### 4. RESEARCH METHODOLOGY:

**Problem definition:** To develop a deeper understanding of Education 4.0 and its understanding for the alignment with Industrial 4.0 in Delhi-NCR. The awareness level of Education 4.0 with various stakeholders: academicians (college & school) and students (colleges) are to be investigated.

The current study is a descriptive research design (cross-sectional survey) of academicians and students of Delhi-NCR. The methodology of this study adopts a scoping review of literatures related to Education 4.0 and Industry 4.0. The descriptions and reviews are carried out by analyzing the studies related to Education 1.0- 4.0 and Industry 1.0 – 4.0. Data involves a review of secondary researches on Industry 1.0 – 4.0 and aligning concepts of Education 1.0 – 4.0. The primary data has been derived by the survey method using structured and non-disguised questionnaire. The purpose of the survey is to study the awareness level of Industry 4.0 and to develop an insight about the education system. The feedback of 213 academicians (school teachers and college

faculty members) of Delhi-NCR has been derived using questionnaire, administered through Google form. Aiming to bridge the gap between Education 3.0 and Education 4.0 in India, this study investigates the awareness level of the pedagogical tools and its implementation under the umbrella of Education 4.0. The awareness levels among stakeholders and smooth integration of education 4.0 with industry 4.0 has been investigated.

**5. RESEARCH ANALYSIS & FINDINGS THROUGH REVIEW OF RESEARCH:**

1. In the last 250 years, society has experienced four industrial revolutions, which have entirely changed the face of industry. Do you agree?

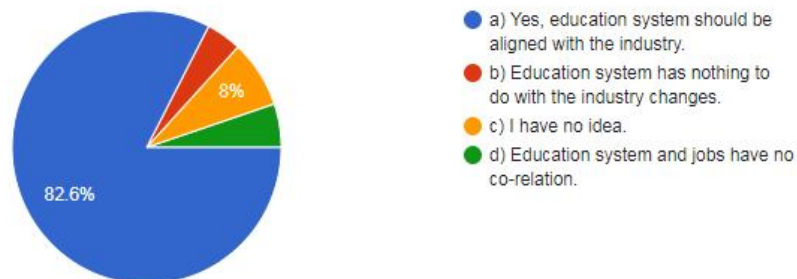
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The awareness of industrial revolutions has been 98.1% of the respondents. The changes experienced in four industrial revolutions have been significant.

2. Do you feel that, education system for the students has anything to do with changes in industry?

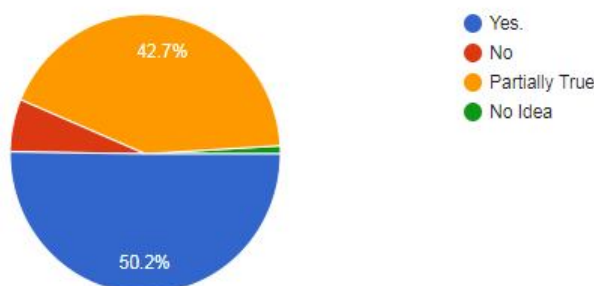
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The changes in the education system had been in tandem with the industrial revolutions. 82.6% respondents admit that, changes in the education system should be in accordance with the industrial job requirements.

3 The ultimate goal of education system is to create student as a valuable members of the work force.

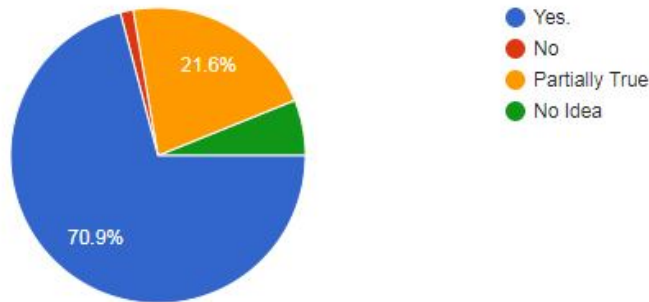
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50.2 % of the respondents have this view point that students are the valuable members of the workforce in the contemporary industrial era. 42.7% of the respondents partially agree on the above statement.

**4. Educational paradigms need to be rebuilding alongside each new industrial revolution in the society.**

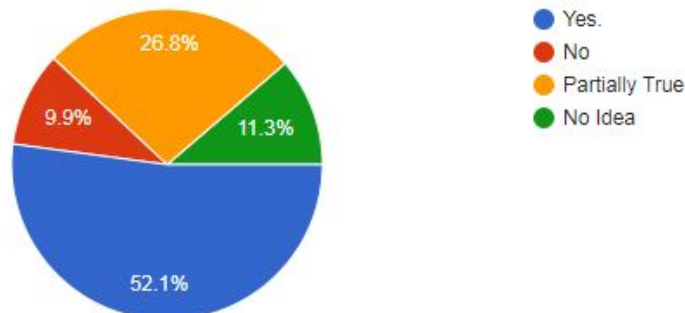
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70.9 % of the respondents agree on the educational paradigms working in accordance with the industrial requirements during the phase.

**5. The rigid framework of study disciplines, education standards and eventually standardized testing has become learning models of past.**

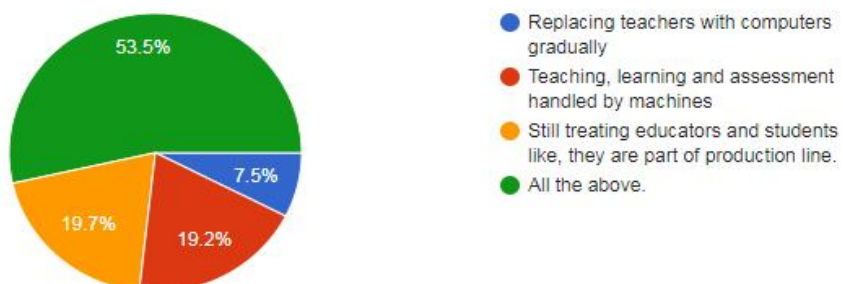
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The learning models in the education system have been evolved with the changing time. 52.6% respondents agree on the fact that rigid framework of education has become learning models of the past. The flexi hour classes and flipped class rooms have become the contemporary education system. In our education system, we could witness a rigid framework of teaching-learning pedagogy. In the era 4.0, there is a need to propagate various pedagogical tools, which are relevant.

**6. The introduction of the computer did change the underlying ethos behind our education system. The technology computers and internet:**

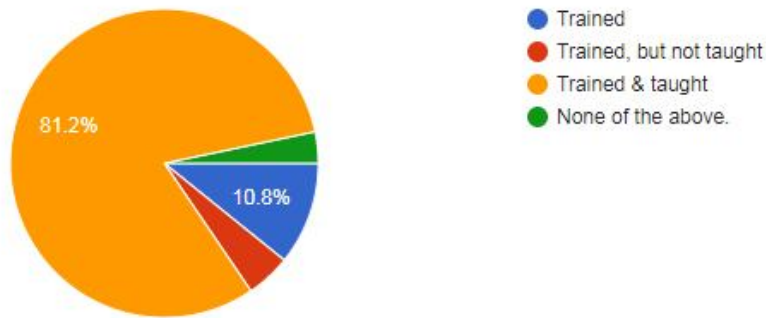
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Technology has revolutionized the education paradigm. 53.5% respondents agree to the fact that in the times to come artificial intelligence (AI) will rule the education system. Gradually, the teaching-learning and assessment process will be machine driven (AI dominance). The computer aided smart manufacturing will involve advanced robotics and AI.

7. In today's new world of fast changing technology and information overload, students need to be:

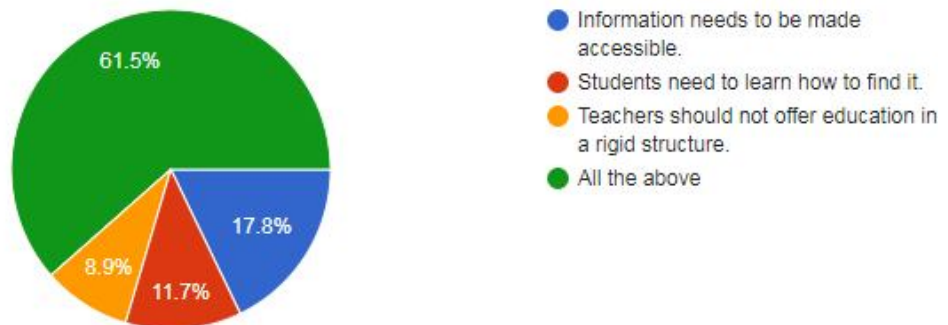
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The respondents (81.2%) were of the opinion that students should be trained and taught. But, in the Education 4.0 the students need to be trained, rather than taught. Training is an integral part of education 4.0. The conventional mode of lecture has to be quickly replaced by flipped classes and interactive learning.

8. In education 4.0:

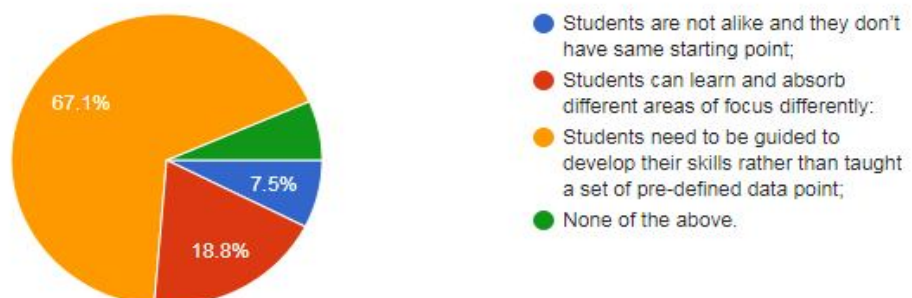
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Majority respondents (61.5%) highlights that the contemporary (Education4.0) education system should not be a rigid education structure. The students should be driven to find relevant information, rather than serving every bit of information to them. Thus, the contemporary education system should be more learners centric with information search to be done in-advance by the students. In this 4.0 era of spoon feeding to the student is not expected.

9. In Education 4.0:

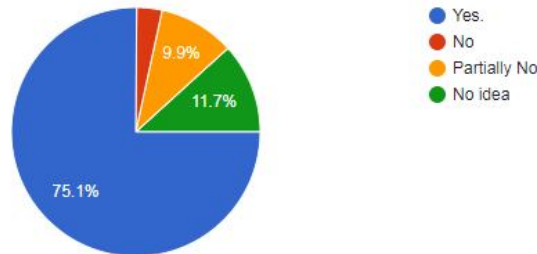
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The respondents (67.1%) agree to the viewpoint that students should be more guided to develop their skills rather than being taught in a predefined rigid form. Moreover, in Education 4.0, this is an expected fact that students are not alike and have to be dealt in tutorial classes with smaller groups. The awareness about the shift in the teaching-learning pedagogy in 4.0 era is an urgent requirement.

10. Education 4.0 needs to be aligned with industry 4.0

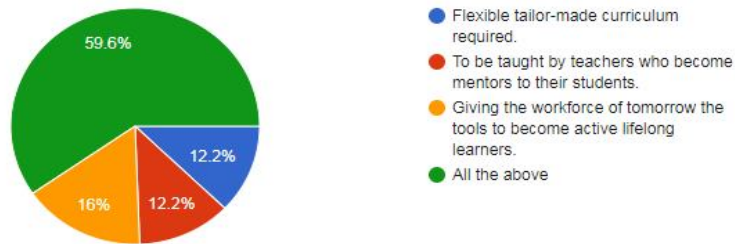
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The respondents (75.1%) are of the view that Education 4.0 has to be aligned with industry 4.0. Although, much of the awareness is required to be created decimating information pertaining to the core features of education 4.0. The education institutions miss on the implementation part, regarding the guidelines of 4.0 era.

11. In the education system of 21st century

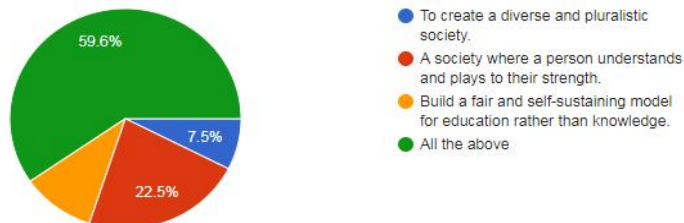
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The respondents (59.6%) endorse on this fact that flexible tailor-made curriculum is the need of the hour. Teachers have a major role as a mentor, rather than providing lectures in a rigid pattern of delivery. The necessary requirement for a teacher is to guide the student to be an active lifelong learner. With the changing times, the new skills need to be acquired. We still lag on the awareness part. The requirements of 4.0 era are to be followed in-letter and spirit.

12. The goal of education 4.0 is:

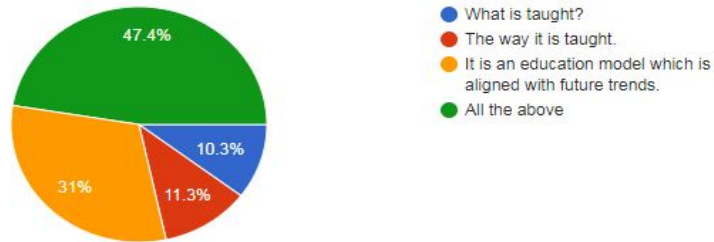
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The respondents (59.6%) agree to the point that contemporary education has to build a fair and self-sustaining model for education rather than knowledge transfer in a rigid form. The education system develops a society which is pluralistic and diverse at large. During this 4.0 era, (40%) respondents do not know the essence of education4.0.

13. A disruptive system, education 4.0 not only focuses on:

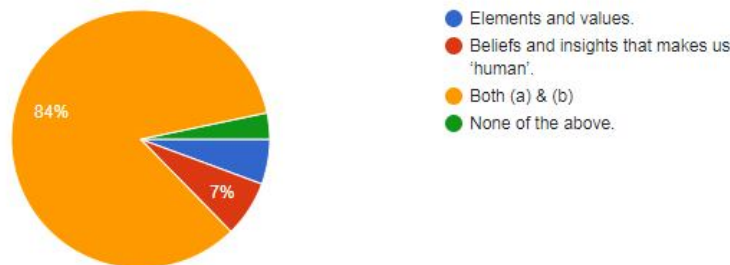
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The respondents (47.4%) were of the opinion that education system should ultimately align with the future trends in the society to make it more conducive and productive. Till the time the education system is not aligned with the industry 4.0, we will find a mismatch in the demand & supply of the job seekers.

14. The barriers between man, machine, and technology dissolve; we need to define education for the next generation by keeping intact:

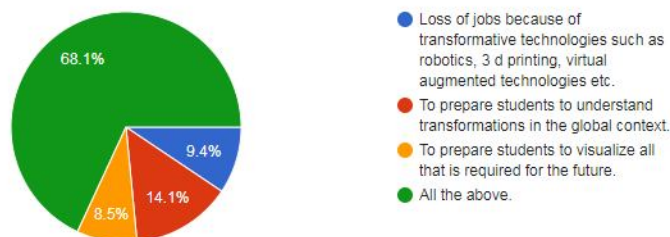
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The education system for the next generation should dissolve the barriers between man, machine and technology. Majority respondents (84%) are of the view point that, education system should induce beliefs and insights which makes us more human. The value system is the underline force to develop any society for the larger good.

15. Industrial revolution 4.0 has brought in education 4.0 to cope- up with the challenge of:

213 responses



Education 4.0 should prepare students to understand transformations in the global context. The respondents (68.1%) endorses on this fact that contemporary education system should prepare students to visualize all that is required for the future. These transformative technologies of Industry 4.0 require varied skill sets and major transformation in the overall approach of students towards the job positions coming their way. Artificial Intelligence (AI) will be replacing majority of the present job positions, thus skill sets required for robotics, 3D printing and virtual augmented technologies should be an integral part of academic curriculum.

**CONCLUSION**

The research study explored deeply into the era of industry 4.0 and the dynamics to cope-up with the visible challenges in Delhi-NCR. The future smart products and services have reduced the shelf-life of modern technologies. The world is shrinking because of new a scientific and technological breakthrough, which has enhanced the boundaries of human knowledge. This has resulted into a paradigm shift in communication, transportation, space exploration and educational technologies. In the 4.0 era, students will compete in a

diverse, multi-cultural and techno-savvy futuristic environment. The governing (regulatory) bodies in the education system have to be more proactive and agile. The preparedness of the education system to ultimately provide industry (4.0) ready candidates is a matter of big concern. The curriculum and the pedagogy used in the present education system needs a serious discussion and relook. The academic bodies like, CBSE, AICTE, UGC etc need to seek students' opinion in designing and updating the curriculum. The mushrooming of higher education institutes / universities, with no quality check/ control by statutory academic bodies, is a cause of great concern. These low quality institutions / universities are providing low quality inputs for the industry in the form of human resource.

The new technologies which are evolving at an exponential pace will be requiring competent candidate. In Indian parlance the contemporary education system has to justify the challenges of these recent advancements, like artificial intelligence (AI), robotics, the internet of things, autonomous vehicles, bio and nanotechnology, 3-D printing, material science, quantum computing and energy storage. The awareness of Education 4.0 is evident, but, positive reinforcements are required to be penetrated done the line to schools and colleges pan-India. The curriculum and contemporary industrial job positions have to be aligned. The understanding of required skills for teachers of 21<sup>st</sup> century and the pedagogy toned-up to the standards of industry4.0 is an urgent requirement. The onset of an era of learning-anytime-anywhere has to be established. The greater opportunities have to be garnered for e-learning tools. This will offer broader accessibility for the students in the form of self-paced learning. The concept of Flipped classroom has to be propagated. The flipped classroom approach would facilitate the classroom instructor to plan the learning activities to support the social emotional learning of the students. Systematic education policy and proper monitoring drive by AICTE/ UGC for higher education institutions would propagate quality industry relevant outcome. Higher education and training institutions should opt proactive measures to develop digital skills and knowledge for the students. Students should be more exposed to project-based learning and hands-on-learning through field experience such as collaborative projects, mentoring and internships. The theoretical knowledge has to be amalgamated with usage of data interpretation and reasoning skills. The education system should induce Massive Open Online Courses (MOOCs) and other online learning platforms in the teaching and learning. The system should move towards a socio-technical-digital ecosystem. To serve the 4.0 scenario, the physical-virtual dimensions should be intertwined for providing smart services. The 4.0 era should focus on three Hs: Head that is knowledge, Heart that is wisdom and Hand that is skills. More interactions between people, machines, and digital technologies would appropriately serve the emerging ecosystem. The role of higher institutions is to provide enough resources to encourage academicians to use technologies in their classrooms realizing the higher education 4.0 and the industrial revolution 4.0. The teaching pedagogy should incorporate hands-on-activities. The continuous involvement of the student should be in the skill development activities, rather than conventional classes. The students are expected to experience or carry-out physical activities, rather than merely listening to lectures or watching demonstrations virtually. Hands-on learning would help to increase student engagement through direct practical experience. The academicians can further equip students to become a lifelong learner by using hands-on-teaching method. The era of 4.0 has the usage of certain themes of E-learning and immersive learning. E-learning has its evolvement from face-to-face teaching and the earlier generations of distance education. Immersive learning utilizes simulations, virtual learning environment and role playing. Academicians should use interactive platforms such as "Kahoot" and "Socrative" to effectively engage students while conducting assessments. Kahoot is a game-based learning program enhances the aura of the overall learning. Socrative is a cloud-based students' application. The flipped classroom approach facilitates the class instructor to plan the learning activities to support the Social Emotional Learning of students. Systematic education policy and proper monitoring of education institutions will propagate industry centric approach of education.

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**AN INNOVATIVE EDUCATIONAL APPROACH TOWARDS AN UNDERSTANDING OF SOCIAL MEDIA AND STUDENT ENGAGEMENT: A LITERATURE REVIEW****Satya Sidhartha Panda<sup>1</sup> and Dr. Suman Pathak<sup>2</sup>**<sup>1</sup>Research Scholar, Jain Deemed –to-be University & Assistant Professor, NITTE School of Management<sup>2</sup>MATS Institute of Management and Entrepreneurship, Jain Deemed to be University

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**ABSTRACT**

*Many students value the social aspects of their university education and hesitate to take online courses thinking them to be devoid of socialization. Actual learning begins beyond the books. Social Media platforms provide plethora of information for learning and enhancing the student's engagement. Social media impacts the student's life in numerous manners. It can be utilized as online study hall which assists in increased student engagement. Social Media fosters collaborative community learning environment which advances learning and teaching. Faculty's engagement on social media has a tremendous growth since few years. Faculties are advising students to use social media for learning and engagement wherein they can build rapport with other students, learn new and creative stuffs and be a step ahead of everyone in this competitive world. E-learning is one of the best practices to learn topics one is interested in at their own comfort zone, pace and at nominal cost. Under E-Learning, MOOCs have become a trend and will gain a massive growth in the future. MOOCs are recognized by the Universities and Educational Institutions as well. One can achieve anything if he has the willingness to. There are plenty of social media tools like Facebook, Pinterest, Quora, LinkedIn, YouTube, and so on. One can effectively and efficiently utilize these tools for the purpose of learning and engagement. To add on, nowadays blogsites are gaining visibility by the rich content they offer and most of the students prefer reading from different sites despite the same topic. The tech-savvy world is delivering great opportunities to the students to enhance their learning and social media is bridging the gap between innovations that are happening around the world and spreading awareness of the same. ITC and social media provide students with a range of academic benefits and opportunities to enhance their learning process and develop their level of engagement.*

*Keywords: Social Media, Social Media Tools, Student's learning, online learning, MOOC, student engagement, e-learning.*

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**INTRODUCTION**

“Today's digital kids think of Information Communication Technology (ICT) as something akin to oxygen; they expect it, it's what they breathe and it's how they live.” —**Learning in a Digital Age, John Seely Brown.** In a digitally connected world, student engagement through the use of social Media (enabling anytime-anywhere internet mediated communications) is giving rise to a new form of market where strangers exchange goods and services effortlessly (e.g. Airbnb, Kickstarter, Lyft etc.) Faculties in higher education have been using ICT in education, such as eLearning tools, multimedia, communication and mobile to enhance students' learning. Different technologies have been utilized in the classroom environment such as Facebook, blogs, wikis, portals, WhatsApp, Twitter and instant messaging. Student engagement is a term used to describe an individual's interest and enthusiasm for school, which impacts their academic performance and behavior (Gallup, 2013). In 1984, Alexander Astin proposed a developmental theory for college students that focused on the concept of involvement, which he later renamed engagement. Astin defined engagement as ‘the amount of physical and psychological energy that the student devotes to the academic experience’ (Astin 1984, p. 297). Today, engagement is conceptualized as the time and effort students invest in educational activities that are empirically linked to desired college outcomes (Kuh 2009). Engagement encompasses various factors, including investment in the academic experience of college, interactions with faculty, involvement in co-curricular activities, and interaction with peers (Pascarella & Terenzini 2005; Kuh 2009). Kuh (2009) emphasizes two major facets: in-class (or academic) engagement and out-of-class engagement in educationally relevant (or co-curricular) activities, both of which are important to student success.

**INCREASING STUDENT ENGAGEMENT**

Students are more willing to connect when they can utilize technology to research information, share ideas, and produce final products. The use of social media tools helps students share information, communicate ideas, and create videos to extend and enhance their learning and demonstrate their mastery of content and skills. Designing lessons that ask students to utilize social media as they work to solve problems, complete projects, and communicate ideas builds confidence, generates enthusiasm, and fosters a sense of play in the learning process. These are key elements to creating an engaging learning environment.

Research shows that the use of social media in learning impacts achievement in a positive way. Increasingly, digital communication skills—including texting, tweeting, and Instagramming, —must be mastered. Social media is one way to strengthen communication skills. Below are some of the ways social media can be used to create high levels of engagement, explore the possibilities of collaborative learning environments, and enjoy the measurably positive effects on the teaching and learning process. (YOUNG, 2015)

### **ADVANCING LEARNING AND TEACHING**

Social media effectively affects learning results in a positive manner. Students who use social media close by their coursework exhibit improved results compared to their classmates who are non-social media users. Peer feedback on assignments and astute reflections on content increment through the open correspondence and solid connections built up with companions. Social Media additionally encourages long haul maintenance of data. A more profound comprehension is created when social networking expands the study hall discourses and work. Utilizing online life in the learning procedure will enable students to create and share recently created thoughts, images, and methods for knowing.

Social Media doesn't need to remove student's attention from their school work. It can really give the discussion to the students in a progressively important manner. By making a private Facebook group, one can post assignments, address by means of Facebook Live, and answer the questions through remarks and private messages. While eye to eye instructing has favorable circumstances, this is an incredible method to interface with students who might some way or another be unfit to go to a conventional homeroom (for wellbeing reasons or in light of the fact that they live in a remote territory, for example). Such a class could likewise be utilized to enlarge the standard educational modules for students who fall above or underneath the standard.

### **REVIEW OF LITERATURE**

Using Social Media in Higher Education: Enhancing Students' Learning and Engagement DIVYA GUPTA (2018), the study done in 2018 aimed at examining whether it is effective to utilize online networking sites to design collaborative learning. This study was limited to Delhi University students analyzing only student's engagement through social media. No others factors were considered. The data was collected through an online survey. Two groups were formed one control and one experimental. Various engagement indicators used for measurement of student engagement were Collaborative learning, effective teaching practice, quantitative reasoning, student faculty interaction, and CGPA. The study suggests that usage of social media for education had a positive impact on marks of students (Academic performance) and individual learning experience. In today's world, the teaching methods should focus more deeply on leadership, team work, and communication skills. The study ascertains that social networking websites have a unique way of encouraging, motivating and giving an individualized learning experience in a way which is not possible in classroom setting. It also increases the interaction between a student and faculties thereby fulfilling the requirements of modern teaching methods.

Promoting student engagement using social media technologies, Mohammad Alshayeb (2018), the study conducts a survey at the end of every semester to determine student satisfaction and engagement. The researchers through their own experience of using three different Social networking technologies (Facebook, WhatsApp and Slack) assessed the student's engagement. The different dependent variables which were measured in the study were student engagement and student learning. Results show that using social media enhances students' engagement and satisfaction. However, familiarity with the tool is an important factor for student satisfaction. The study also highlights the benefits of social networking tools. The inside and outside the classroom communication is enhanced with the use of SNS which ultimately leads to student's enhanced engagement which usually has a positive impact on the academic performance. This research though was limited to usage of WhatsApp, Facebook and Slack for student's engagements and learning's for Saudi Arabian students only.

The Effect of Twitter on College Student Engagement and Grades R.Junco, G.Heiberget&E.Loken U.S.A. (2010), Social media is attracting enormous number of users. Student fraternity is also a heavy user of Twitter, Facebook and YouTube. This study is based in the US, for pre-health professional students and describes the effect of a major social networking website; Twitter on the student engagement and grades. The study attempts to examine the causal relationship between social media usage and student engagement. Even though Facebook remains the leading SNS tool, twitter is gaining its foot as a popular micro blogging site. The study tries to enlarge the previous research through a survey. The survey was conducted for American University students. The sample was taken and a control and experimental group were made. Twitter was used as an assignment for the study. The important interpretation of the survey is that usage of Twitter as a learning activity increased the engagement scores of the students who were involved as a experimental group. The study also postulate that

encouraging the use of Twitter can result in positive effect on grades. Content analysis of twitter communication significantly impacted student's engagement, than traditional classrooms. The role of faculties in controlling and encouraging the use of Twitter is also highlighted. If used for educationally relevant purpose and with an active role of faculty as a mediator, SNS can not only increase the co-operation among the students but can also be used to promote active learning. While Twitter promoted communication and engagement the wise usage of the tool should be encouraged by the faculties.

**Impact of Facebook Usage on Students' Academic Achievement: Role of self-regulation and trust;** Sana Rouis, Moez Limayem, Esmail Salehi-Sangari (2011), the study is based in Sweden and measures the perceived impact of the use of the social networking site Facebook on undergraduate students. The study is unique as it analyses how individual traits and cultural disparities can have an impact on students' academic achievement and his involvement with SNS. Numerous studies have proven that personality traits shape individuals' attitudes and behaviors. Hence, the personality traits significantly determine Facebook usage. The study tests the role of trust in people, self-regulation, and personality traits in enhancing one's presence on Facebook. Another variable is tested; extensive cognitive load and its effect on increased presence on Facebook. The study then checks whether these variables have negative impact students' academic results. The study undertakes to resolve the impact of role of satisfaction with life, and performance-goal orientation in reducing the presumed negative effect of online social networking and enhancing the students' academic achievement. The results validate that engagement in social activity in the form of Facebook increases time spent on the website, and it results in decrease in students' focus and effort on assignment preparation. Extraverted and open students usually have negative effect of usage of Facebook. Whereas, students who are self-regulated are in control of their presence on these websites, which limits the ultimate negative effect.

**The Effect of Social Network Sites on Adolescents' Social and Academic Development: Current Theories and Controversies** June Ahn (2011), the paper written by June Ahn in 2011 looks into the effect of Social networking sites on teenager's social and academic development. This study is a literature review and discusses the questions and controversies which emerge from the use of SNS and how does it affect the social and academic development of youth. The study does not distinguish between terms youth, teenagers, and adolescents. Adolescents use social network sites (SNS) heavily. The study proposes that the defining characteristics of SNS are profiles, friends, and extended friend lists. It highlights that SNS is ever prevailing aspect of the life of youth and young adults. It affirms that traditional demographic indicators like race, parent's education does not have any significant correlation with the use of SNS. It asserts SNS use is related to self-esteem and psychological well-being. Though as far as academic performance is concerned, it highlights studies which support that there is no significant relationship between SNS usage and GPA of a youth. However, the study connects SNS indirectly to academic performance. SNS can lead to high-quality relationships with adults, teachers, and peers. These quality relationships allow students to feel more connected to academics and thus take academic risks. Other peers might communicate what goals and behaviors are valued, through their status messages and wall posts on SNS, which in turn can model positive academic behavior. These instances of Information sharing and academic support may be related to higher academic achievement.

**The impact of online social networking on learning: a social integration perspective** Stella Wen Tian (2011), the study is a qualitative research and develops a conceptual model based on social integration theory and Astin's involvement theory. The study focuses on social networking application specifically on Facebook. It gives important insights on the effect of social networking on the learning experience among the college students. It illustrates through literature review that for a college student two basic elements of learning are should be taken into account - Academic and Social learning. Hence, it is fitting that institutions recognize the value of both social and academic learning. But in reality, the institutions give focus on academic learning and ignore the social learning outcomes. Social learning is important for overall development and for long-term career. The outcomes of social learning are shaped by components like self-esteem, student's satisfaction with life and how a student communicate and network. The study also conducts focus group interviews with students and states that most participants consider Facebook as a social networking tool instead of an academic learning tool. Hence, academic learning outcomes through Facebook are not observed. Nevertheless, there exists a high correlation between social learning outcomes and academic learning outcomes. Consequently, the study concludes that there exists a direct relationship between social learning and social networking but the relationship between academic learning and social networking is indirect. Another important observation of the study is senior students feel more comfortable with using Facebook for academic activities as compared to juniors.

Social media in the context of education is often thought as a mismatch but in fact, it can play an important role in academics. Social media tools are not only for quick updates or to post pictures on Facebook. But social media can be useful, too. Students use the online learning system (like Edmodo)-an online tool that can enable professors to post assignments, schedules, answer queries and keeping the conversation going even when the students are outside of class. No one can deny the importance of student-teacher interaction in academics. The usage of social media helps the teacher to communicate with the student. Social media is used by teachers to share videos and articles related to the class. Students can use the tools to get in contact with teachers outside the class. It helps students to get help for homework and assignments during holidays and weekends. The use of social media also increases student collaboration as they can be part of many learning communities through social media tools. The forums and discussion board on some of the platforms can achieve almost the same benefits as schools/colleges. The social media also is a great platform to as rich e-Learning media is available at the click of a button. Hence, if used cautiously and prudently, social media platforms can enhance the whole academic experience, and results in better academic performance of the students.

### **SOCIAL MEDIA TOOLS USED IN LEARNING**

Social Media is influencing the students in plethora. Through social media, students are learning things beyond the books. Learning beyond the books is increasing the ability of the students to doing things in a different way. There are various social media tools that are paving ways for the students in learning. Some of the tools are listed below.

#### **FACEBOOK**

Facebook is ruling the tech-savvy world since 2004. Facebook is widely used by the students in learning. Facebook pages on numerous topics and subjects deliver plenty of information than what is there in the books. It also has videos that are worth watching and Facebook also gives us an option to save or download the videos for future reference. Work becomes easy and this generation believes more in smart work than hard work. Students can join in various education groups and forums to engage and communicate with different people. Students can also create groups with their classmates and faculties and all their notes, assignments, doubts can be posted there.

#### **YOUTUBE**

A video sharing social media site founded in the year 2005 with an aim to allow the users to share, like and comment on videos. The videos on YouTube are the source of a great learning to all the students out there. Learning becomes fun when it can be practically visualized than just reading what is it. By this way, students can engage themselves to watch more videos on YouTube as all they plan to learn is served there. Students can also shoot their videos regarding any activity or topic they are interested in and upload it on YouTube which will be a source for others to learn.

#### **LINKEDIN**

LinkedIn is a platform where students can learn about the career opportunities that are available in and around the world. LinkedIn also helps the students to interact with the officials of the company so as to know about the work culture and the requirements. One can share posts, their work experiences, and so on. LinkedIn opens the door of opportunities for the students in helping them know what the competitive world requires so they can prepare themselves and be ahead.

#### **PINTEREST**

A social media tool where users can show their creativity and also learn innovative and creative things posted by other users. Pinterest assists students in brainstorming their ideas and thoughts. It enhances the students' capability and visibility to new things. Students can make use of Pinterest for doing their mini projects or group projects and can also give or receive feedbacks for scope of improvement. Pinterest also has a feature of virtual field trips wherein students can pin various information in the form or images, videos, GIF and so on on the given topic.

#### **QUORA**

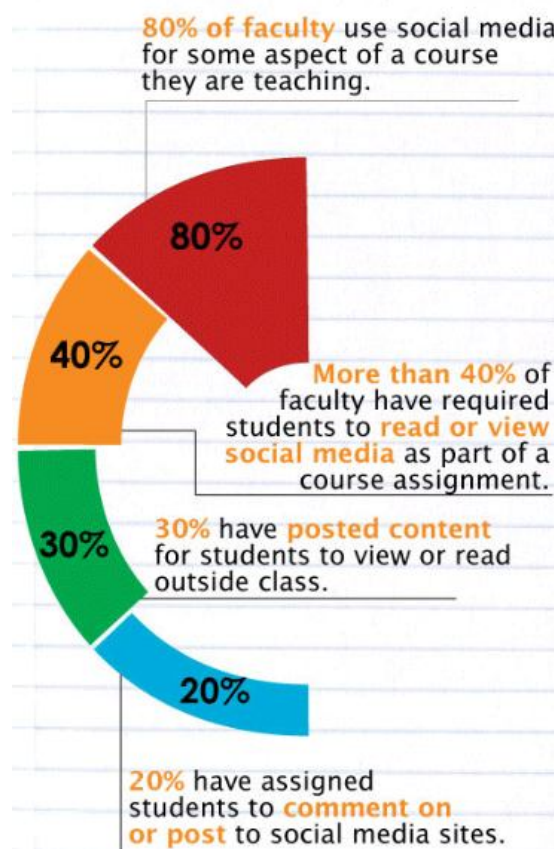
A question and answer website where any Quora user can question on any topic that he/she needs an answer for. Likewise, any Quora user can respond to the question that has been posted. This enhances learning and interacting with different people and knowing about different things. If one doesn't have any questions can also learn through Quora by reading different people's questions and responses. Quora was made available to the public since 2010 and it is a wonderful platform for student engagement and learning.

**TALKSHOE**

A social media tool which emphasises on having radio shows where one can join and deliver presentations, involve in group discussions and engage with various kinds of people. Talkshoe is a free online service and has no limits on the number of recordings you share or listen to and one can also create their own workspace learning and participants can also save their recordings as podcasts to upload them in the future. Talkshoe provides a great form of learning as it also has live talk shows wherein the participants around the world can listen, interact and clarify their doubts.

**FACULTY'S ENGAGEMENT ON SOCIAL MEDIA**

Teaching Fraternity of any Educational Institution play a vital role in keeping the momentum of the students and shaping their career. Faculties are bridging the gap between the students and social media for various purposes in learning.



Source: Babson Survey Research Group

The modern era has made the faculties to stay updated in their domain as the students are sharper and their doubts are arising at a different level. The study reveals that 80% of the faculty use social media for any aspect of the course that they are teaching. It is very easy to carry a smartphone or a laptop than carrying numerous books and all the social media apps can be installed and utilized at any point of time. 40% of the faculties have given their course assignments keeping in mind that students make use of social media. Catchy and attractive content enthusiasts the readers to read more and more. 30% of the faculties are posting content for the benefit of the students. 20% of faculties have assigned students to comment or post on social media sites. By this, the faculties are enhancing in student's engagement. The conversation gets extended when every student shares any fact or news that they happen to come across on any social media site. This develops learning beyond the books but within the classroom. Not only the students but also the faculties tend to learn more by this practice. Research gives an opportunity to learn more and figure out the reasons that why a particular norm or practice is being followed. Most of the information is shared on the social media sites and if a research topic is given by the faculties to his/her students, then he/she must have also done ground work on it and being the modern era, the students know from where the information has to be collected and delivered further. This upgrades the knowledge and also the learning capacity of the students. A faculty's engagement on social media fosters student's engagement in using social media tools to enrich great learning.

**E-LEARNING: The Future of Education**

Learning outside the traditional classroom is E-Learning. It is a process where the students enroll themselves for any certification program or degree which is delivered online. The class will also be conducted through live videos or pre-recorded videos. There are courses that are self-paced which benefits the students in learning at their comfortable time as well as at their comfort zone. The main advantage of e-learning is that the students can learn and get certified with the courses that may not be available where they reside. For example, students from rural areas may not enjoy the facility of having all the courses in their place but through e-learning, they can also enhance their knowledge and learn whatever they desire to. E-learning is comparatively affordable. There are courses which can be enrolled for free and only if the certificate is required, then payment can be made. E-learning saves a student's time and per capita cost on education as they don't have to travel for their classes. Students also get benefitted as they are given assignments and deadlines of submission and they also have faculties to grade them. Students can clarify any doubts by interacting with their faculty members and improve their performance as the content that is delivered is rich and consistent.

**BLOGSITES**

Blogging has come a long way since 1994. Nowadays blogs have become ubiquitous. One can blog about any random topic. Blogging is like writing your personal diary but in an online form. Blogs and Bloggers are gaining popularity because of its readers. The more qualitative the blog is, the more traffic on the blogsite. Blogs benefit the students in multiple ways. Students can read multiple blogs on the same topic that they are surfing about and understand every blogger's perspective of delivering information. Blogs that are rich in content are an incredible source of learning for the students.

**MOOC**

MOOC is a Massive Open Online Course that can be enrolled by any person from anyplace. MOOCs have become a trend and it is becoming the future. With the help of internet, one can learn any topic of his choice at a nominal cost or even free of cost. Certification courses and various other programs are delivered online by numerous Universities and Institutions around the world. There are some corporations named Coursera, edX, Futurelearn and so on. Apart from the regular classes that the students are attending, it is always better to have more knowledge to compete in this competitive world. Nowadays MOOCs are recommended by the faculties to their students and many Universities are also making MOOC course as a compulsory one and the students have to take up atleast one MOOC Course, moreover, the credits that the MOOC course carries will also be added to the total number of credits in the curriculum. MOOC has grown tremendously since 2012 till date and will have a massive growth in the upcoming years.

**IMPACT OF SOCIAL MEDIA ON STUDENT'S LEARNING:**

- It encourages Student's Engagement.
- It fosters Modern Learning Environment.
- It assists the students in creative learning.
- It inculcates motivation in students to diverse thinking.
- It improves student's participation to work on team projects.
- It creates awareness about the innovations happening around the world.
- It provides content rich resources.
- It serves the student community by providing information on any topic required.
- It helps the students to understand concepts by pre-recorded or live videos that are uploaded on various social media platforms.

**CONCLUSION**

Social Media has improved with various services and resources. These services and resources can be used by the University students for effective learning. Social media provide many ways of transmission and sharing the resources in different ways (images, videos, audios, documents, and others). However, social media play an increasingly important role in the academic performance due to its modern techniques that meet the education upgradations. The programs and tools of social media are important for two main reasons. First, the clarity and content of the liability of users and second because they point to a range in student learning. However, the use of tools of Web 2.0, such as blogs and social networks, used to supplement the teaching materials used in the classroom, encourages independent learning and inculcates motivation in the students. Meanwhile, the digital

media is useful to complete the process of teaching and learning in the context of today's information society tool. It fosters collaborative work and knowledge construction of a social mode.

There is no denying in the fact that the advantages and usage of new technologies leads to the process of academic performance. By using social media for the educational purpose, the students' activities can be more than the activities of traditional classrooms, because these social media can be used anytime and anywhere by the teachers and students for variety of academic purposes that results of enhancing the academic performance of the students and it also provides an easiest way for the teachers to receive the comments and discuss them via social media platforms.

It suggests a need for training the professors to become more comfortable with social media in their classrooms, and perhaps be in a position to effectively utilize and develop skills in this area.

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**INNOVATIONS IN FINANCIAL MANAGEMENT****C. Sowbhagya Lakshmi<sup>1</sup>, M. Haritha<sup>2</sup> and Dr. A. Amrut Prasad Reddy<sup>3</sup>**Research Scholar<sup>1,2</sup> and Research Supervisor<sup>2</sup>, Department of Management Studies, Yogi Vemana University, Kadapa

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**ABSTRACT**

*Finance is called as life blood of every organization so ,every organization want to adopt innovative methods /techniques into business for effective management of finance and to keep upgrade themselves , to survive in the market. Financial management is concerned about raising of funds and effective utilization of financial resources towards business goals .the paper evaluates the recent innovations in financial system and how it impact on management of finance and then profitability of the business. The study is purely based on the secondary data and used descriptive research type . The study also focus on the specific areas of the financial management such as working capital , cash management practices , inventory management etc .*

*Keywords: Financial System, Financial Innovations, Financial Management*

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**I. INTRODUCTION**

In order to run business successfully the owners always keep an eye on the finance and how it goes and come to the business. The owners if they want to start any project, any new business, expansion of existing business well ahead plan about finance and concentrate on financial planning, resource allocation, financial control of the business. If their plan goes wrong the business is suffer from the losses and decreases the profitability . it always effect the survival life of the business in the present as well as in future. The firm need to adopt innovations, innovative practices into the business to update , survive of the business in competitive world. In order to achieve their goals and objectives every person associated with organization efficiently manage the finance then only it will possible.

**CONCEPTUAL MEANINGS**

**Finance** : every organization may work with materials, men ,but it may not work with out money. here it is called as finance. Hence it is called as life blood of any business organization .

**Financial management** -is about preparing , directing, and managing the money activities of a company such as buying ,selling, and using money to its best results to maximize the wealth. It is also called as - the management of finances of a business. It helps the managers for raising and effective utilization of finance towards the organization goals.

**Financial system** – is a set of institutions such as banks and insurance companies, stock exchanges at various levels like regional, national ,global levels.

**Financial Innovation:** Financial innovation is the process of creating new financial products, services, or processes. is the act of creating new financial instruments as well as new financial technologies, institutions, and markets. Some of financial innovations include hedge funds, private equity, weather derivatives, exchanged traded funds ,Islamic bonds(Sukuk) .

There are 3 categories of innovation: institutional, product, and process.

**KEY ELEMENTS IN THE FINANCIAL MANAGEMENT**

There are 3 key elements in financial management for getting profitability and for smooth running of business .they are

1. Financial planning
2. Financial control
3. Financial decision making

Very first thing is about ensuring enough funding at right time I.e either in short term, medium term ,long term to meet the needs of the business. The process is forecasting of required finance for business .Next important activity is about meeting its objectives i.e achieving profits, shareholder needs, gaining of competition , securing of assets etc.the last activity is most important one which may change the entire business aspects .here the key aspects is relating to financing, investment and dividend decisions.

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## **II. LITERATURE REVIEW**

Many researchers have conducted studies on financial management premised on their objectives, but few studies have been conducted on how financial management practices impinge profitability of business enterprises especially in the developing countries.

Similarly, Ang (1992) indicated three main financial decisions including the investment decisions, financing decisions and dividend decisions.

McMahon (1995) suggested a way of identifying the major decisions of financial management is to look at the balance sheet of a business. There are many decisions regarding items on the balance sheet. However, they are classified into three main types: investment decisions, financing decisions and dividend (profit distribution) decisions.

The intended goals of financial management are grouped into two main components and they are maximization of profit and wealth (Paramasivan and Subramanian, 2009). English (1990) also added growth as one of the targets of financial management. Researchers who have researched into financial management have no difference when it comes to the thoughts of key financial management decisions.

According to Agyei-Mensah (2011), the major cause of these business enterprise failures in Ghana is careless financial management. The intended goals of financial management are the foundations upon which the efficiency and effectiveness of financial management are evaluated and compared. The efficient and effective acquisition and use of finance in any enterprise leads to proper employment of the enterprise's finance.

Studies from an early age are intact with the idea that financial management has no adverse effect on innovation activities of the firm, but as the researchers developed more theories, this concept began to revert. In the most current studies, researchers have agreed to the concept of the relationship between financial management and the innovation, and have evident that financial frictions have its adverse effects on innovation (Hall & Lerner, 2010).

Accordingly, financial management is one major constraint on the growth of business enterprises. Regarding on the effect of financial management on performance, Dersse and Prabhakara (2012), studied the effect of financial management practices and characteristics on profitability of business enterprises in Jimma town. Both primary and secondary data were collected from 37 business enterprises in Jimma town. The study found that; profitability was significantly affected by efficiency in financial management practices such as accounting, reporting, & analysis, working capital management, fixed asset management and financial planning and financial characteristics such as current ratio and debt ratio.

A more accurate outcome can be observed through measurement of spending on innovations including the acquisition of patents in comparison to the returns of the entity after the spending. The factors of concern here are the number of patents acquired after a successful innovation, and these must be further divided into categories and planned future usage, the franchising of the patent (to evaluate the actual worth and demand of the developed research in the market), the intensity of these citations vary industry to industry, therefore, it is better to compare each patent with average number of patents yearly issued in relevant industry. Hence a mere count of developments or patents for innovations in a year is not a sufficient measure (Hall et al, 2001; Hall et al, 2005; Acharya & Xu, 2017)

The relationship between financiers and innovation is modeled by many theorist, and researchers, giving their own view for measuring the correlation between the two. One of the theories is given in Morales 2003, in which The International Journal ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES ISSN 2345-0282 (online) <http://jssidoi.org/jesi/> 2017 Volume 5 Number 1 (September) [http://doi.org/10.9770/jesi.2017.5.1\(5\)62](http://doi.org/10.9770/jesi.2017.5.1(5)62)

The theorist mentioned the monitoring technologies which enable lenders to keep a close eye on n his investment, through regular updates and expected returns, this technique, in addition, allows the financier to force the firm to maintain a fast running cycle, creating outcomes within lesser intervals than they would in absence of his/her investment. (Morales, 2003; Agénor & Canuto, 2017).

## **III. RESEARCH METHODOLOGY**

### **Need for the study**

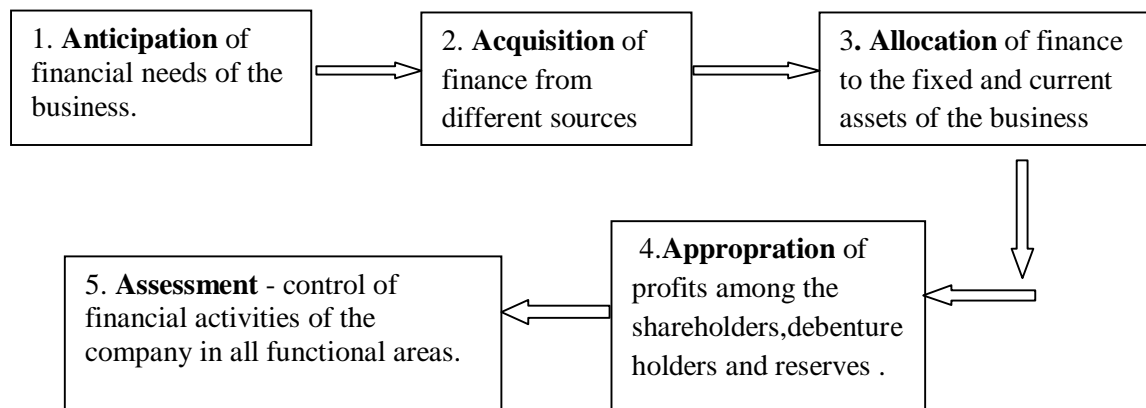
Without finance no single activity of business done. The need is

- ✧ Profit maximization of the business
- ✧ Wealth maximization of the business

- ✧ Adequate forecasting of finance requirements
- ✧ Proper utilization of finance
- ✧ Maintaining of cash flows
- ✧ To survival of the company
- ✧ To create reserves
- ✧ To create good will
- ✧ To increase efficiency of all departments of the company
- ✧ To create financial discipline with in the company
- ✧ To invest finance in productive areas
- ✧ To reduce operating risks and uncertainty
- ✧ To reduce cost of the capital
- ✧ To construct best capital structure

**Scope of financial management**

According to Dr.S.C.Saxena scope of financial management includes five A's. they are



**OBJECTIVES OF THE STUDY**

- To identify innovative functions of financial management
- To identify the recent innovations happened in financial system and financial management that increases the financial performance.
- To examine the specific areas of financial management and how it impact on financial performance and profitability of the business .

**IV. Innovations in Financial Management :**

Innovations in financial management can be divided into 3 different parts .such as

**1. INNOVATIVE FUNCTIONS OF FINANCIAL MANAGEMENT**

The functions are categorized into 2 important functions such as

1. Routine functions

2. Innovative functions

**1. Routine functions** - also called clerical functions , it helps to perform

- ✧ Supervision of cash receipts and payments
- ✧ Safeguarding of cash balances
- ✧ Safeguarding of securities ,insurance policies
- ✧ Record keeping and reporting

- ✧ Credit management
- ✧ Maintaining proper details about financing

## 2. Innovative functions :

- I. safe guarding of daily requirements of finance.
- II. Determining of capital structure
- III. Forecasting of capital requirements
- IV. Forecasting cash flows
- V. Investment decisions
- VI. Allocation of surplus funds- in the form of dividends to shareholders ,bonus to employees.
- VII. Periodically monitoring of finance performance

## 2. Recent Innovations in financial instruments :

Financial system include financial instruments, markets and services .financial innovation came over an advancement of financial instrument . the financial innovation can be from three different categories such as

1. Product innovation- relating to introduction of new products in the market such as derivatives, foreign currency mortgages, securitization etc
2. Process innovation – relating to introduction of new process that must bring changes in the financial system such as online banking, telephone banking , bank assurance.
3. Institutional innovation – relating to create new financial firms such as electronic trading platforms (stock broking firms), mutual funds , stock exchanges etc.

All These three innovations are creating some changes in the financial system , that changes are

- \*changes in payment through debit card , credit card.
- \*change in lending and borrowing through **Paytm** services ,equity capital
- \*changes in advanced technology for payment through online applications, **net banking , credit cards .**
- \*changes in transforming of money through **Remittances facilities .**
- \*changes in transactions through various apps like **phone pay , google pay .**
- \* changes in the investment pattern through **crowd funding , seed capital , venture capital , angel investment**
- \*changes in the R&D for innovative products and services through artificial intelligence.
- \*changes in the better services to customers through **CRM**-customer relationship management ,supply chain management (SCM).
- \*changes in storing of data through software data **Tally, SAP, ERP**, etc.

## 2.1Innovations in the financial management

An innovation without strong financial management can become dead stop, might never happen in the future until manage the cost .A firm just dreaming about innovation is not enough it also think about the capacity to undertake ,implement it successfully. Some of the recent innovations in financial management are

- Searching for better financial resources at a concessional rates.
- Applying innovations to the corporate strategy in a better way (SWOT analysis)
- Aware of all financial opportunities for investment, funding .
- Aware of institutions supporting for innovations like venture capital ,angel investment .
- Aware of the funding of innovation such as crowd funding, private funds
- The firm concentrate on intellectual property rights
- Wise selection of products, process , technology that must save finance

- Following good auditing practices
- Working as per company policies without wasting of money
- The firm exposure to the arising of financial risk (either internally or externally)
- Well ahead plan about budget preparation, expenditure of a firm.

### 3. Recent trends in financial Management :

So many changes happened in financial management either in technology or in management of finance and financial instruments .some of the trends are

**Go paper less** – earlier days every document or anything first written on the paper. It is time taking and cost is high. Now it all changes into paperless to save cost, to save time , and smooth flow of work for further. This change helps the company from data loss .

**Cloud computing solutions** – As the number of companies are increasing the need of saving the data. The company requires new financial management solutions rather than desktop services. The benefits from cloud computing are

It saves cost and time

The business owners access data at any time when they needed

It works as per the business related features automatically.

**Supply chain management** – generally for every distribution of product requires middle men. Supply chain management helps the company to eliminate middle men in the process and save the cost. Supply chain management works as B2C(Business to customer) it directly linked to distribution of product from manufacturer to consumer.

### Risk Assessment

Financial crisis in 2008 made alert for every business to accept the risky times . so ,risk assessment is an integral part of business and financial planning. Recent times owners /managers are made a well ahead for risky situations and helps their companies to avoid risk .

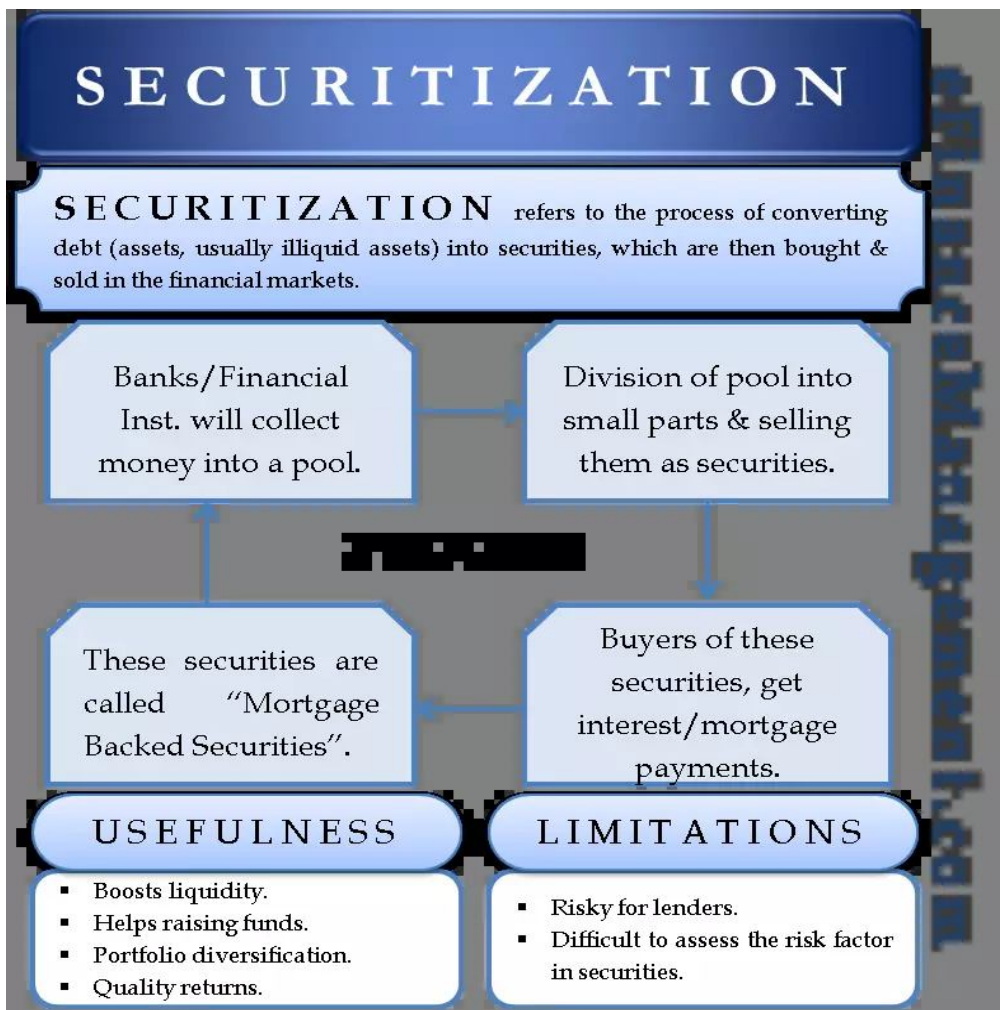
BYOD (Bring your own device): it is a practice of allowing employees of an organization to use their own devices like tabs, computers, smart phones to complete the work very fastly . .companies choose BYOD especially for 4 reasons

- It ensures employee satisfaction
- Cost savings
- The people respond more quickly to business emergencies
- To improve productivity.

### 4. Innovations in financial investment environment :

**Traditional investment is only in bonds, stock. but these investments changes day by day.** Advancements in financial environment leads to more innovations in investment environment. The people ready to invest their money for future purpose or to gain profits. Some of the innovations in investment are

1.**Securitization** : it is a process of pooling different types of debt such as residential mortgages ,commercial mortgages, auto loans, credit card obligations and selling it as securities to third parties is called securitization. The process is as follows .



**2. Digitalization**

Every process of investment carried through a online process. In investment process shares are purchasing and selling through demat account .and all transactions regarding investment is carried through digital banking . Crypto currency also bought in electronic form . All financial transactions of a company is run through online payment services (paypal, google pay ,etc). Remittance is also a way that people living in foreign country send money through online transfer.

**3. Diversification**

**“Instead of keeping an egg in one basket keep eggs in different baskets”** is a popular saying .It is a most popular strategy for investors in investment process. Diversification is selection of more than 2 financial instruments and invest money in different propositions. The investors choose this strategy to avoid risk and to earn profits.

**4. Crowd funding :** is a process of raising equity capital .equity crowd funding is a process where people invest in early or growth stage of unlisted companies in exchange of shares in that company and has a partial ownership. Two popular platforms for equity crowd funding are Seed Invest and Funders Club. In addition, micro-lending platforms such as Lending Club and Prosper allow for crowd funded debt financing.

**5. Derivative market:** it is also a popular market for investment . it is the financial market include options, future, swaps, forwards. In these again swap options, currency options, currency futures , interest rate futures etc gain popularity in investment .

The important innovation is **weather derivatives** .it is a financial instrument that derive their values from weather related variables such as temperature, rain fall,snow fall, frost and wind.

**6. Crypto currency :** The popular form of crypto currency is Bitcoin. This is a virtual type of money that can be purchased outright or mined using tips from industry experts like Genesis Mining. Now all over the world the business is accept bitcoin as a form of payment. there are finite number of bitcoins and it will become strong in the future.

**7. Hedge fund :** it is an investment fund that pools capital from investors or institutional investors to invest in variety of assets .

#### **8. Smart home solutions :**

Everything is smarter now a days .like smart mobiles even have soft homes that saves energy by using smart door bells, smart TVs, smart alarm systems, automatic temperature at home , applying IOT technology to the home appliances by using smart phones etc increases the investment opportunity.

#### **V. SUGGESTIONS**

- Financial resources are crucial to any organization. so carefully plan to obtain and utilize the funds.
- The biggest problem for introduction of innovation into the business is lack of financial resource , lack of time .So keep updation of information on resources and innovation is important.
- It is better to accept the risk in investments and gain returns because some times it gives success.
- In every business organization it is needed to convince the management to invest for innovative ideas .
- Good cash management practices helps the company to increase financial position.
- Management of organizations should ensure to change the organization techniques or methods for efficient management of finance.
- Management of organizations better to increase their working capital so that profitability is increases and indicates funds also available for the company.
- Owners /managers identify strengths and weakness of the company to improve financial position.
- Accurate forecasting of finance helps the company to escape from losses .
- Financial planning and control gives better results when they implemented as per the desire.
- Before introducing innovation into the company better to know whether it is feasible or not , how much percentage of profitability it earns , cost of the innovation .

#### **VI. CONCLUSION**

A good financial management not only helps the business organizations to get profitability but also helps to gain good will, better investments , maintaining of reserves , facing competition, adopting innovative techniques, expansion of the business ,confidence to move forward etc. so , every organization either small, medium or large balancing the requirements of finance is needed at all stages of the company. A well ahead finance plan helps the business to reach their goals and objectives successfully.

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**TOTAL QUALITY MANAGEMENT AS A CHANGE DRIVER FOR INFLUENCING AFFECTIVE COMMITMENT TO CHANGE: AN EMPIRICAL STUDY IN IT ORGANIZATIONS OF DELHI-NCR REGION**

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**ABSTRACT**

*Purpose:* Over a few decades, total quality management (TQM) in the IT organizations has become an essential component for continuously improving the quality of performance with increased resources. This paper aims to recommend a conceptual model of how TQM practices affect affective commitment to change through their impact on employee readiness to change.

*Methodology:* It based on a qualitative survey distributed to 160 employees'. The total number of the filled questionnaire received back found to be accurate with 125, and the response rate was 78.125%. It conducted on a sample size of 125 IT employees in the Delhi-NCR region. An empirical test of the hypotheses having direct and indirect effects tested using correlation and Model 4 in PROCESS Macros Procedure for IBMSPSS Version 3.00.

*Findings:* The findings revealed that TQM practices have a positive and significant direct relationship with employee's readiness for change in the IT organization of the Delhi-NCR region with correlation coefficients through the SPSS technique with ( $r= 0.776$  and  $p= 0.00 < 0.05$ ). Similarly, results depicted that employee's readiness for change has a direct and positive significant relationship with affective commitment to change with correlation coefficients through the SPSS technique with ( $r= 0.624$  and  $p= 0.00 < 0.05$ ). It was also found by the researchers that TQM practices have a significant and positive with affective commitment to change ( $r= 0.651$  and  $p= 0.00 < 0.05$ ). It was found by the researchers that there is also an indirect effect of TQM practices on affective commitment to change (Effect = 0.5205 having BootLLCI = 0.2940 and BootULCI = 0.7331) (with applied Model 4 in PROCESS Macros Procedure for SPSS Version 3.00 which was written by Andrew F. Hayes using IBM SPSS)

*Implications:* TQM practices gained an advantage for providing high-end quality products to the IT organization, which acts as a business weapon for the IT organization that can be benefited, by this study.

*Keywords:* Affective Commitment, Employee readiness, change, Total Quality Management

*Paper type:* Research paper

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**1.1 INTRODUCTION**

The emergence and existence of Total Quality Management (TQM) in the last few decades have become the most essential and happening event in management practices. It was first introduced into the U.S. around 1980, mainly in response to the harsh competitive challenge from Japanese companies (Dean & Bowen, 1994). In a vibrant pace of change, the business environment influences company practices such as Total Quality Management program for successful implementation for enhancing organizational effectiveness and competitiveness.

Total Quality Management gains importance in increasing organizational efficacy and performance. It is a set of values that guide continuous improvement to endure in a competitive and uncertain environment, where the business is continuously improving in each phase of every process; every level and every activity for the maximizing profit at large (Chang & Sun, 2007).

The change is a continuous and steady process for every organization. There are various practices, such as Quality circles, kaizen, TQM, etc. in developed and developing countries. TQM practices are used in the organization to enhance customer satisfaction by increasing the service delivery process (Powell, 1995). TQM helps people in gaining sustainable competitive advantage (Prajogo & Sohal, 2003). In a dynamic business environment, there are various philosophies to produce better quality products such as increased productivity, reduction in costs, and an increase in market share for improving strategic performance (Easton & Jarrell, 1998).

It is a significant factor that helps tactically to increase the competitive advantage of an organization (Yang, 2003). The organizations must strive for the diverse challenges faced in the global economy. The dynamic

nature of doing business in this era puts most successful business organizations under massive pressure to handle the developing difficulties in the global marketplace. TQM, as a holistic management approach, integrates all the organizational activities, to satisfy customers' needs, helps the employee to meet their expectations towards achieving overall corporate objectives (Kumar et al., 2009).

Organizations should focus on change readiness in both processes and products (Haffar et al., 2014). TQM practices help to increase individual readiness for change. The organizations must understand the four dimensions of total quality management, namely, change self-motivated, management support, Personal beneficial and, Organizational beneficial (Yang, Chen, & Su, 2003). Overall Quality Management significantly required in most IT organizations for providing enhanced products and services worldwide. The intense competition gives no room to compromise on the quality of the product in a global world today, which is adding up intense pressure to the organization. Therefore TQM with IT resources will enhance the operational tasks resulting in improved quality output and productivity. IT industry will depend upon TQM for giving feedback and facilitates communication for carrying out advanced IT modeling tools.

## **2.1 LITERATURE REVIEW**

TQM as the practice for a business to aim for continuous improvement in every field to improve the overall quality and as well the effectiveness of an organization for customer satisfaction (Kaynak, 2003). The employee's readiness for change, requires the association, with the wellbeing of change, with the intention, that it may be implemented by them properly (Rusly et al., 2012). Readiness has been initially introduced by (Jacobson, 1957). It considers significant aspect involved in employees' prime maintenance for change enterprises (Armenakis et al., 1993; Armenakis, Harris, & Feild, 1999).

### **2.1.1 Association between TQM practices and employee's change readiness**

Powell (1995) recognized several TQM factors which can bring super quality in the product/service sector. So, he identified these dimensions in 15 practices, best fitted in both the manufacturing and service sectors. The change is dynamic for any business to survive in this globalized world scenario. However, organizational change is required by the employer within the organization.

Individual readiness for change defined as the perceptive innovator to the attitude of either opposition to, or backing off, a change effort (Armenakis, Harris, & Mossholder, 1993). The concept of readiness for change defined as the point to which individually hold affirmative views about the acceptance for organizational change in addition to the extent to which employees think that such changes have optimistic implications for themselves and the organization (Jones, Jimmieson and Griffiths, 2005).

Iqbal and Asrar-ul-Haq (2018) revealed that employee change readiness brings an inclusive impact, to the level of organizational change in software houses of Pakistan. Furthermore, the results of this study found that TQM practices and ICR provide noteworthy provision to quantify the mediating role of ICR and employee performance. A study done by Al-Maamar et al. (2017) studied the role of TQM application in the Oil Unit in Yemen. They also analyzed the impact of TQM practices concerning human resources readiness to change and thereby improved efficiency and overall productivity and performance in the organization.

At Haffar et al. (2014) found that "individual change readiness" is strongly related to TQM and, have stated that the presence of "individual change readiness" in the organizational culture, would lead organization to the better execution and, implementation of TQM practices (Haffar et al., 2016). Mahanti and Antony (2009) concluded that TQM practices are the critical success factor in the Indian software industry. TQM is an essential approach for the betterment of the industry in terms of product quality, service, a satisfaction of the customer and, profitability (Martinez Lorente et al., 2004; Alexandros and Adrian, 2007; Jung and Lee, 2016).

The above available literature suggested that only (Top Management Support, Employee Involvement, Training, and Continuous Improvement) are the dimensions of TQM studied, which are relevant to the IT industry. It found that a considerable gap occurs in developing economies about the relationship between total quality management practices and employee's readiness of change in the IT industry of the Delhi-NCR region; therefore present scenario intends to fill out the gap in IT industries.

So, the hypothesis becomes

H0 (1): TQM practices do not have a positive and significant influence on individual readiness for change.

**2.1.2 The Relationship between Employee change readiness and Affective commitment to change**

Individual readiness for change described how individuals are cognitively and sensitively react toward a particular move. However, they further divide into four dimensions as change-specific efficacy, appropriateness, management support, and personal valence.

- a) Change-specific efficacy explains how an employee is capable of executing a planned change.
- b) Appropriateness reflects the scope to which the future change would be beneficial for the organization.
- c) Management Support refers to how the leaders maintain the change.
- d) Personal valence reflects the nature to which the next shift would be valuable to organizational members (Holt, Armenakis, Field, & Harris, 2007).

Individual readiness for change referred to be the most vital factor of employees' affective commitment to change (Herold et al., 2007; Holt et al., 2007; Visagie and Steyn, 2011). (Herscovitch& Meyer, 2002) developed a model of affective commitment to change. Emotional commitment to change reflects the belief to stimulate the employee to generate necessary support that can provide change based on inherent knowledge. However, it divided into three dimensions as affective commitment, normative commitment, and continuance commitment to change. But in the current study, only affective commitment is taken.

Based on the above argument, it is found by the researchers that an additional gap exists in the literature about the relationship between employee change readiness and affective commitment to in IT industry of the Delhi-NCR region.

Therefore, the current study intends to find out the relationship between them.

So, the hypothesis becomes

H0 (2): Individual readiness to change will not have a positive and significant relationship with employee affective commitment to change

**2.1.3 Association between TQM practices and Affective commitment to change**

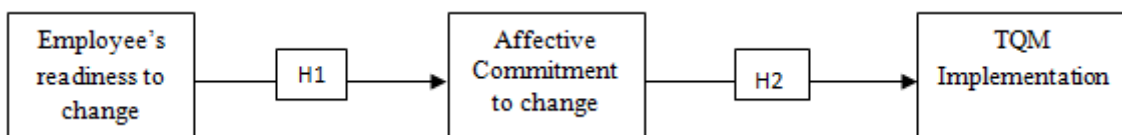
Deming (1982) measured the success of TQM practices, which is significantly dependent on individuals with a high level of affective commitment to change. The employees, who have shown a high and affective commitment to the change, would work more and beyond their regular duty hours, to make change initiatives work more effectively (Shum, Bove, & Auh, 2008). Consecutively change actions to be achievable, organizational members need to have the highest level of affective commitment to change, which was introduced by TQM practices (Meyer et al., 2007; Shum et al., 2008).

Based on the above discussion, a gap exists in the literature about the relationship between TQM practices and affective commitment to change in the IT industry of the Delhi-NCR region.

Therefore, the formulation of the hypothesis becomes

H0 (3): TQM practices will not have a positive and significant relationship related to employee affective commitment to change.

**Figure 2.1 Literature review model**



**Employee’s readiness for change will mediate relationship between TQM practices and and Affective commitment to change**

Logically speaking, when two variables interrelate with each other, it can modify their relationship if a third variable is added additional into it. First of all, an independent variable can easily predict a dependent variable. Secondly, the independent variable can also predict the third variable. Lastly, the third variable helps in explaining the dependent variable (Baron & Kenny, 1986). The above discussion provides a valid justification for the variables used in the current study examined in the IT industry of the Delhi-NCR region.

**The present study addresses a logical gap regarding the mediating role of employee's change readiness between TQM practices and affective commitment to change.** Hence, it is acceptable that TQM practices may have a little relationship with affective commitment to change unless they are prepared to accept and

implement the change pressed by TQM practices. The above hypotheses, stated in the preceding sections, show the association amongst TQM practices, Employee readiness to change, and Affective commitment to change. Implicitly, the discussion suggested that the TQM practices, influence affective commitment to change through their impact on employee readiness to change. That is, how TQM practices influence emotional commitment to change through their implications for employee readiness to change.

**So, it is proposed by the researcher, that**

H0 (4): Individual change readiness does not mediate significantly between TQM practices and employee affective commitment.

### 3.1 Research Questions

The research study has developed the following research questions:

- a) At what level, TQM practices relate to individual change readiness?
- b) At which point, the change readiness does refer to employee affective commitment?
- c) Where did the TQM practices relate to employee emotional involvement?
- d) To what extent the individual change readiness mediate the relationship between TQM practices and employee affective commitment?

### 3.2 Research Objectives

- a) To examine the link between TQM practices and employee readiness for change.
- b) To investigate the relationship between employee readiness for change and affective commitment to change.
- c) To examine the link between TQM practices and affective commitment to change through employee readiness for change.

## 4.1 RESEARCH METHODOLOGY

### 4.1.1 Research Design:

According to Crotty (1998), there were four elements to the research design in social research as:

- a) **Epistemology:** It constitutes legal knowledge and how we can achieve it?
- b) **Theoretical Perspective:** A Philosophical stance which explains the methodology context for its criteria
- c) **Methodology:** Strategy or design that links methods to desired outcomes
- d) **Methods:** Techniques and procedures

These four classifications explained the research designing method as related to each other. Crotty's approach adopted in this research.

### 4.1.2 Sampling Design

This study used a widely accepted standard questionnaire for a quantitative research survey (Sekaran, 2006). After considering into account all techniques, non-probability sampling used for drawing a sample from the population of the IT sector in Delhi – NCR region. The convenience sampling technique used to select participants for the survey.

### 4.1.3 Sampling Size

In the current study, the population consists of the employees engaged in the IT organization in Delhi – NCR region. It based on a qualitative survey distributed to 160 employees from various organizations. The total number of the filled questionnaire received back found to be accurate with 125, and the response rate was 78.125%. At last, 125 filled questionnaires has selected for the study. The remaining 35 surveys have left for inadequacy. It conducted on a sample size of 125 IT employees from the various organizations in the Delhi-NCR region.

## 5 DATA ANALYSIS AND INTERPRETATION

### 5.1 Descriptive Statistics

Table 5.1 describes the demographic profile of respondents of the IT industry comprises of 72(57.6%) male and 53(42.43%) female. Forty percent of respondents were less than 30 years old, 44.8 percent were between 31-35 years, 13.6 percent were between 36-40 years, and 1.6 percent was more than 40 years old. Forty percent of the respondents were holding a bachelor's degree, 53.6 percent carrying a master's degree and, 6.4 percent holding

the post-doctorate. The researcher found that 71.2 percent of the respondents were middle managers, whereas 28.8 per cents were juniors and upper managers. Further, found out that 25.6 percent of the employees were below five years, 23.33 percent were working in the organization for less than five years. 52.8 percent of them were working in the organization for 5-10 years, 16.8% of the employees were having an association with the organization between 11-15 years and, only 4.8 percent of the employees were working in the same organization for fifteen years or more. The data would suggest a size of an organization with 18.4 percent were less than 100 employees, 12.8 % were between 100-500 employees, 18.4 percent were between 500-1000 employees, and with the highest percent above 1000 employees with 50.4 %.

**Table-5.1: Demographic profile of the respondents**

S.No	Categories	Frequency	Percentage (%)	Total
1) Gender	Male	72	57.6	125
	Female	53	42.4	
2) Age	25-30 years	50	40	125
	31-35 years	56	44.8	
	36-40 years	17	13.6	
	>40 years	2	1.6	
3) Qualification	Bachelor degree	50	40	125
	Master degree	67	53.6	
	Post Doctorate	08	6.4	
4) Experience	< 5 years	32	25.6	125
	5-10 years	66	52.8	
	11-15 years	21	16.8	
	> =15 years	06	4.8	
5) Designation	Junior Level	19	15.2	125
	Middle Level	89	71.2	
	Upper Level	17	13.6	
6) Size of Organization	1-100 employees	23	18.4	125
	100-500 employees	16	12.8	
	500-1000 employees	23	18.4	
	>= 1000 employees	63	50.4	

## 5.2 Procedures used in the advancement of the study

The measures for this study personalized from three different sources.

### Total Quality Management Practices instrument:

It includes the TQM practices scale developed from Powell (1995) with four dimensions that are related to the IT industry. It works on a 5-point Likert scale for measuring dimensions such as Top Management Support, Employee Involvement, Training, and Continuous Improvement. It ranges from 1= strongly disagree to 5= strongly agree. It has 19 items to be rated by the respondents.

### Employee's Readiness to Change instrument:

The individual's readiness to change framework taken from (Holt et al. 2007) with four dimensions. The researchers have developed 20 items to all four aspects as Change Self-Motivated, Management support, Personal beneficial, Organizational beneficial, to be rated on a 5-point Likert scale with response categories ranging from 1= strongly disagree to 5= strongly agree.

### Affective Commitment to Change:

Herscovitch and Meyer's (2002) scale used by the respondents on the 5-point Likert scale. The Questionnaire attached in the Appendix.

**Table 5.2 Development of Scale**

S.no	Variable	Items	Items deleted	Cronbach's alpha	No. of items	Normality
1	TQM Practices	Top management actively involved in communication and, planning of organizational goals. Top leadership provides significant	None	0.947 ( > 0.65)	19	0.00 ( < 0.05)  Reject Null

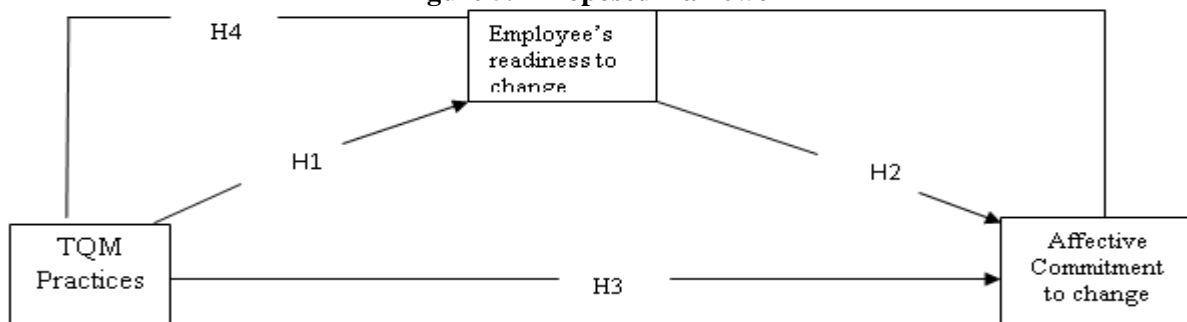
		<p>resources to improve and maintain quality.                      Top leadership views, quality more important than production.                      Management at the top takes quality as their responsibility.                      Top leadership anticipates changes and, make plans to accommodate it.                      Top executives routinely interact with their concerned departments.                      Increased employee involvement in design and planning.                      A more active employee suggestion system.                      Increased employee involvement in decision making.</p> <p>Increased employee interaction with customers and suppliers.                      To encourage employees to take both education and training.                      Employees receive the awareness of quality education from company                      Employee receive training in problem solving skills                      Employee receive training in team work                      Providing specific training for developing employee's skills                      Organization adopts a method of continuous improvement work                      Organization is working on updating the criteria for accepting new employees.                      The Organization develops the levels of scientific research                      The organization is working to modernize their tools and techniques</p>				Hypotheses
2	Employee's Readiness	<p>My past experiences make me confident I will be able to perform successfully after the change is made                      I have the skills that are needed to make this change work                      When we implement this change, I feel I can't handle it with ease(R)                      When I heard about this change, I thought it suited my skills perfectly                      After change is implemented, I am confident I will not be able to do my job(R)                      Encouraging all employees to accept this change                      This change was committed by top leader                      Sending clear marks for conducting</p>	None	0.894 ( > 0.65)	20	0.000 ( < 0.05) Reject Null Hypotheses

		this change in organization Emphasize the important of this change More time is wasted when top leaders don't want to happen this change When we implement this change, I can envision financial benefits coming my way The prospective change will give me new career opportunities In the long run, I feel it would be worthwhile for me if the organization adopts this change. My future in this job will be limited because of this change(R) This change makes my job easier I think the organization will benefit from this change Our organization is going to be more productive when we implement this change When we adopt this change, we will be better equipped to meet our customers 'needs This change will improve our organization's overall efficiency Our organization will lose valuable assets when we adopt this change(R)				
3	Affective Commitment to change	I believe in the value of this change This change is a good strategy for this organization I think management is making a mistake by introducing this change This change serves an important purpose This change is not necessary(R) Things would be better without this change(R)	None	0.660 (> 0.65)	6	0.000 (<0.05)  Reject Null Hypotheses

**5.3 Reliability of the Instrument**

Table 5.2 represents the Cronbach's Alpha coefficients for all the variables with reliability ranging from 0.893 to 0.966, which considered to be excellent and acceptable. The value greater than 0.65 indicates a high level of consistent security in the responses, we also checked the normality through the box-plot, shows few mild outliers, however, these are not potential outliers and, can be considered in the analysis.

**Figure 5.1 Proposed framework**

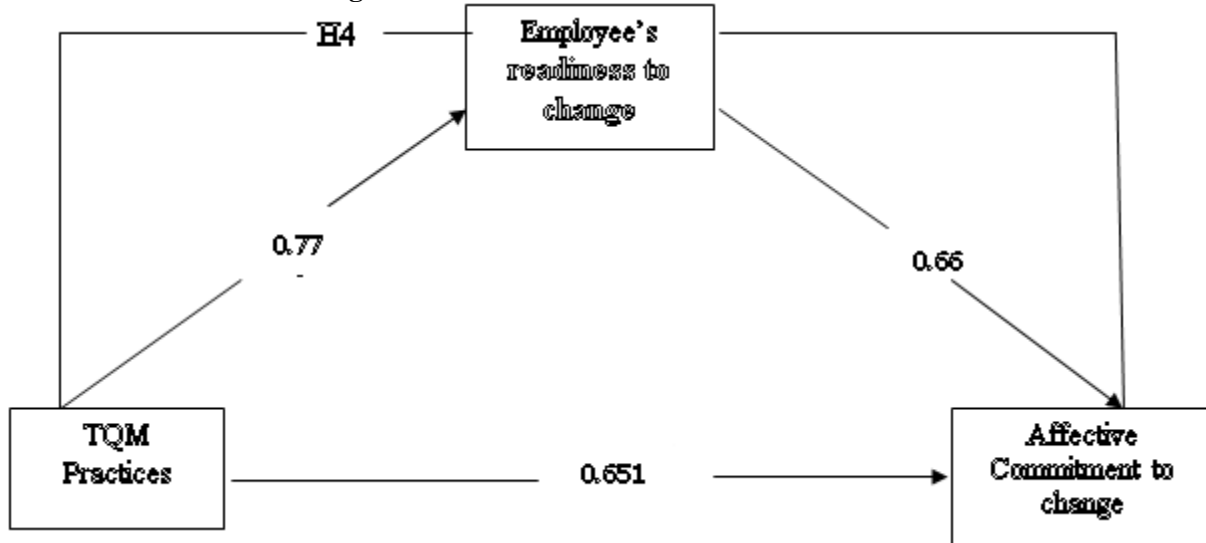




**Table-5.3: Hypotheses Testing of Direct effect**

S.No	Hypotheses	Direct Effect	Correlation (r)	p-value	Decision
1	H0(1)	TQMPractices → Employee Readiness	0.776	0.000 (< 0.05)	Reject/Significant
2	H0(2)	Employee Readiness → Affective Commitment	0.664	0.000 (< 0.05)	Reject/Significant
3	H0(3)	TQM Practices → Affective Commitment	0.651	0.000 (< 0.05)	Reject/Significant

**Figure-5.2: Framework with correlation value**



**Table 5.4(a) Hypotheses Testing of Indirect effect**

S.No	Hypot heses	Indirect Effect	Effect	Conclusion
1	H0(4)	TQM Practices → Employee's Readiness → Affective Commitment	0.5205 (not equal to zero)	Indirect Effect/ Mediator exists

**Table 5.4(b) By Andrew F. Hayes Process Macros SPSS Version 3.0**

Indirect effect(s) of X on Y:Model 4	Effect	BootSE	BootLLCI	BootULCI
Ztqmsc → ZERs → ZAcsc	0.5205	.1136	.2940	.7331

Table; 5.3 depicts the hypotheses testing of direct effect and, Fig 5.2, represents the proposed model, which was analyzed by the researchers, with correlation values depicting interrelationships among different variables. Table (5.4) a and Table (5.4) b were analyzed by using applied Model 4 in PROCESS Macros Procedure for SPSS Version 3.00, which was written by Andrew F. Hayes using IBM SPSS. Hypotheses {H0 :( 1)}, was found to be significant and can be concluded from the result, that there is a direct and significant correlation between TQM practices and employee's readiness for change. Hypotheses {H0 :( 2)} showed a meaningful relationship between employee's readiness for change and affective Commitment to change. Hypotheses {H0(3)}, was also having a significant association between TQM practices and Affective Commitment to change. Still, it was more clear from hypotheses {H0(4)} that it was having an indirect effect [from table {3.4(b) } at a 5 percent level of significance] and concluded that it failed to accept null hypotheses. Hence, it can be found by the researchers, from the result that there exists an indirect effect of employee's readiness for change between TQM practices and Affective Commitment to change.

**Table 5.5 Results Summary**

NO	Hypothesis of Study	Description of path	Findings of Study
H0(1)	TQM practices do not have a positive and significant impact on individual readiness for change.	TQM → ER	Supported

<b>H0(2)</b>	Individual readiness to change will not have a positive and significant relationship related to employee affective commitment to change.	ER → AC	Supported
<b>H0(3)</b>	TQM practices will not have a positive and significant relationship related to employee affective commitment to change	TQM → AC	Supported
<b>H0(4)</b>	Individual change readiness does not have indirect effect between TQM practices and employee affective commitment.	TQM → ER → AC	Supported

**6 DISCUSSIONS AND IMPLICATIONS**

**6.1 Descriptive analysis**

The findings, as depicted in Table 5.1, show varied responses from gender, age, groups, different qualifications, work experience, size of the organization and, the designation. The Cronbach’s alpha coefficients (as depicted in Table 5.2), ranging between 0.7 and 0.8 considered to be good. Values greater than 0.65 were supposed to be acceptable and, lower than 0.65, found to be weak. The Cronbach’s alpha coefficient values lie within the accepted range make the instruments reliable.

**6.2 Correlation analysis**

Table 5.3 depicts the results for the direct effect of Total Quality Management practices, Employee’s readiness for change, and Affective Commitment to change. According to correlation analysis, all variables under the study, Total Quality Management practices, Employee’s readiness for change, and Affective Commitment to change are correlated with each other and found to be positive, direct, and significant at a 0.05 level of significance.

**6.3 Standardized direct effect (unmediated effect) of Total Quality Management on Affective Commitment to change**

The findings revealed that TQM practices have a positive and significant direct relationship with employees’ readiness for change in the IT organization of the Delhi-NCR region. Therefore {H: 01 (1)}, is accepted on the basis of the correlation coefficients through SPSS technique with (r= 0.776 and p= 0.00 < 0.05). TQM practices help in improving employee readiness for change (Iqbal & Asrar-ul-Haq, 2018).

Mahanti and Antony (2009) concluded that TQM practices are the critical success factor for enhancing readiness for change in the software industry. The current study in the IT organization also suggests that TQM practices have direct (unmediated) and, significant positive effect on employees readiness for change, which also accords with (Al-Maamari et al., 2017). Hence, hypotheses {H0:1 (1)}, deduced from the literature review was failed to reject. TQM items such as top management support, employee involvement, training and continuous improvement, were more prevalent practices in the IT organizations, so they were considered by the researchers, for the current study.

All the above TQM practices were highly relevant to employees’ readiness for change, lead to increased performance. It also depicted that Employee’s readiness for change has a direct and positive significant relationship with affective commitment to change in the IT organization of the Delhi-NCR region. So, H: 01(2)}, is accepted on the basis of the correlation coefficients through SPSS technique with (r= 0.624 and p= 0.00 < 0.05). Results are also consistent with the findings of (Herold et al., 2007; Holt et al., 2007; Visagie and Steyn, 2011), which state that Individual readiness for change is the most vital factor of employees’ affective commitment to change. Therefore, hypotheses {H: 01(2)}, is significant and failed to reject.

Readiness itself states that employees will absorb the organizational change that occurs in the organization. The employees must be aware of it, will have a positive relationship with affective commitment to change. From the analysis, it found that TQM practices have a significant positive and direct relationship with affective commitment to change in the IT organization of the Delhi-NCR region. So, {H: 01(3)}, is accepted on the basis of correlation coefficients through SPSS technique with (r= 0.651 and p= 0.00 < 0.05).

The results are also consistent with the previous literature review of {(Meyer et al., 2007); Shum et al., 2008)}, which states that employees have the highest level of affective commitment to change after the introduction of TQM practices achievable by change initiatives. The result of the current study is in accord with the finding of (Deming, 1982). Hence, hypotheses {H0:3 (1)} depicted from the literature review, was significant and, it failed to reject it.

This particular study in the context of the IT organization has also confirmed that TQM practices are positively related to affective commitment to change.

#### **6.4 Standardized indirect (mediated effect) of TQM practices on affective commitment to change through process macros**

The results in Table 5.4 shows the indirect effect of TQM practices on affective commitment to change. So, H1 (4) is accepted with applied Model 4 in PROCESS Macros Procedure for SPSS Version 3.00, which was written by Andrew F. Hayes using IBM SPSS with (Effect = 0.5205 having BootLLCI = 0.2940 and BootULCI = 0.7331). If any zero comes between Boot lower limit and Boot upper limit means that whatever we are comparing is the same and their effect is zero or direct.

In the current study done in IT organizations, context with effect =0.5205 not equal to zero concludes the indirect impact of Total Quality Management on the affective commitment by the mediated effect of employee readiness to change. It means that employees' readiness for change mediates and facilitates the relationship of TQM practices on emotional commitment to change in the IT organization of the Delhi-NCR region.

As employee readiness for change occurred in business culture, more TQM interventions can be adequately executed (Haffar et al., 2013). The business environment and the pace of change encourage learning for TQM intervention. The role of change agents is to incorporate change in the entire organization to improve TQM practices.

#### **7.1 CONCLUSION**

In the current study, results extend to the past literature of knowledge by developing and investigating the mediating role of employees' readiness for change between TQM practices and employee affective commitment to change by explaining association among them. The current research contributes to the direct relationship between TQM practices and affective commitment. Its indirect effect shows more compatibility between TQM practices and affective commitment via employees' readiness to change, {refer to table 3.3, and Table 3.4(a,b)}.

The researchers considered all TQM items, which are highly applicable to IT organizations such as Top Management Support, Employee Involvement, Training, Continuous Improvement for the study. All above TQM practices are highly relevant to employee's readiness for change, leads to increased performance. TQM practices gained an advantage for providing high-end quality products to the IT organization, which acts as a business weapon for them. IT organization in Delhi-NCR region can be benefited, by this study.

The results summary reveals that TQM practices would bring the positive and significant indirect effect of employees' readiness for change on affective commitment to change. The results of this particular study are very much similar to the previous researches conducted on individual change readiness, TQM practices, and affective commitment. The current research would require a lot of examination in this area, as the researchers on this issue need more investigation. The analysis of collected data reveals and extends the body of research on the positive relationship of change readiness and TQM to employee affective commitment to change. This study would deal with a theoretical gap found in prior literature, regarding change readiness mediation to enhance employee affective commitment to change in the IT organization of the Delhi-NCR region. Further, change readiness can bring a positive contribution to the level of organizational change to encourage more employee affective commitment to change.

#### **8.1 FUTURE SCOPE**

The researchers focused the study on employees change readiness, TQM practices, and affective commitment to change across the IT sector in the Delhi-NCR region only. The study includes quantitative techniques, but research scholars in the future can apply qualitative cum quantitative methods. A large sample preferred from the upper level of organizational members would help in the accomplishment of the organization's objectives and would also come up with relevant research questions. The current study can act as a standard for future researches in the field of employees change readiness and TQM interventions in different sectors. This present paper and its results are also valuable to practitioners in facilitating the execution of TQM and change readiness in developing countries.

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**IMPACT OF SOCIAL MEDIA IN TRAVEL DECISION MAKING PROCESS**

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**ABSTRACT**

*Consumer behavior is one of the most critical concepts to focus on when it comes to marketing strategy. Thus, this paper aims to understand the role of Instagram in leisure travel and to describe its impact on consumer behavior. The primary objective of this paper is to help businesses and marketers by providing insights on Instagram and its features influencing consumer behavior and decision-making process. This paper is an in-depth study of the relationship between one of the most trending social media applications, Instagram, and one of the most "information intensive" sectors, the travel industry. Taking place in one of the most vibrant cities in the world, Hong Kong. As a matter-of-fact, the use of social media, especially Instagram, has been steadily growing in the travel industry. How can travel industry-related businesses leverage Instagram to reach their target audience and grow their businesses? Findings revealed that Instagram is used more intensively during the dreaming stage, experiencing stage and sharing stage. Much of respondents declared that Instagram inspires their travel plans. Also, Instagram, blogs, search engines, Facebook and traditional word-of-mouth are the most considered sources of information for travel planning. Moreover, Instagram Stories have a very high level of acceptance and adoption. Finally, and far over other types, again a very high of respondents affirmed that photos are the most considered type of content for travel planning. The outcome of this study suggests that businesses and marketers in the travel industry should take advantage of Instagram, which is an incredible tool to reach their target audience. One of the key advice would be to rely on Instagram Stories to reach the target audience on a daily basis toward an increase in brand awareness and loyalty.*

*Keywords: Social Media, Instagram, Travel Industry, Consumer Behavior, Travel Planning, Decision-making process.*

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**1. INTRODUCTION**

Noticing a shift in traveler's behavior regarding travel planning, along with an increase in the popularity of travel-related content on Instagram, the author believes in a strong correlation between these trends. Continuously traveling for educational purposes, enjoying short leisure trips, and working at a digital marketing agency, this raised a great interest in investigating the role of social media, especially Instagram in leisure traveler's behavior. Does the content on Instagram influences a traveler's decision? Many features and inbuilt tools have been added to Instagram (Business Instagram, 2016c, 2017b ; Instagram, 2016), and seem to be adapted when it comes to travel planning. Do travelers use these functionalities for travel planning purposes? A rapid enlargement in businesses community is going on (Business Instagram, 2017a). How can travel-related businesses and marketers effectively leverage Instagram?

When it comes to Instagram, which is a relatively recent social media application. Only a small number of insignificant research are available. Although, Instagram has been steadily growing in popularity next to Facebook and YouTube ("Google Trends," 2018), by having reached 800 million users in 2017 (Business Instagram, 2017a).

The travel industry's output is primarily service-oriented, and it is intangible and composed with sub-decisions, making it different from other sectors (Fotis, 2015 ; Horner & Swarbrooke, 2016 ; Wang & Pizam, 2011). Thus, the travel decision-making process is still under-studied, hence creating a need for a travel-related framework in consumer behavior (Fotis, 2015).

The information provided for the paper is collected through a literature review and by conducting an online survey. The survey targets Hong Kong residents who are monthly active Instagram users that have taken at least one leisure trip within the past year. The data collection will be about the use of Instagram and its features regarding the travel consumer behavior.

The author expects that the research findings will help businesses and marketers in the travel industry to develop their digital marketing strategies, to take advantage of Instagram for brand building and visibility purposes. According to Leung et al. (2013), academic research can benefit an industry with theoretical principles that can be used to guide strategic divisions in decision making.

## 2. RELATED WORK

The origin of social media relates to the transition from world wide web to web 2.0. The world wide web, also called 'WWW', 'the Web', and 'Web 1.0', can be defined as an information space containing resources that are interlinked by hypertext links, and accessible via the Internet (Wikipedia, 2018). These resources were published statically as a one way 'read-only' format, meaning that the interactions between Internet users were almost non-existent (Borges, 2009 ; Hays, Page, & Buhalis, 2013). Without interactivity of the Internet, the concept of social media cannot exist. The emergence of Web 2.0 has enabled the interactivity of Internet and creation of social media as we know it today. From the unidirectional flow of communication, as known as 'static web' to 'the second phase' Web 2.0, with new levels of relations user is now able to create and share contents, collaborate and communicate through social media. (Fotis, 2015 ; K. Ayeh, Au, & Law, 2013 ; Živković, Gajić, & Brdar, 2014). User-generated content, the mobility of Internet are considered as the new standards of the Internet for Web 2.0 (Buhalis & Law, 2008 ; Cao, Yu, & Tian Tian, 2017 ; Hays et al., 2013 ; Safko & Brake, 2009).

Content communities are Internet-based applications that enable users to share media contents in different formats (Fotis, 2015). They are essential in the context of this study, considered as a useful tool for travel planning among travelers because media contents can affect travelers' decisions (Fotis, 2015). Consumer review websites are Internet-based applications that enable users to review and rate products, places, and services (Fotis, 2015). They include functionalities that allow users to give a return of experiences such as comments, media uploading, scale rating wish- lists, price comparisons, advanced search, recommendations and more. The primary purpose of consumer review website is to facilitate consumers' decision making. It can be a standalone website (i.e., Yelp, TripAdvisor) or embedded within e-commerce websites (i.e., Amazon, Booking.com) (Fotis, 2015).

According to the previous discussion, the author chooses for this study to segregate the social media types used in travel into four categories, illustrated in the figure 1.

Social media applications (i.e., Facebook, Twitter, Instagram, YouTube, Snapchat, LinkedIn) as defined earlier, blogs, forums, and wikis. Social media applications would have four subsets; Social networking sites, microblogs, content communities and consumer review websites. Location-based social media could arguably be a subset of social networking sites or a simple new feature.

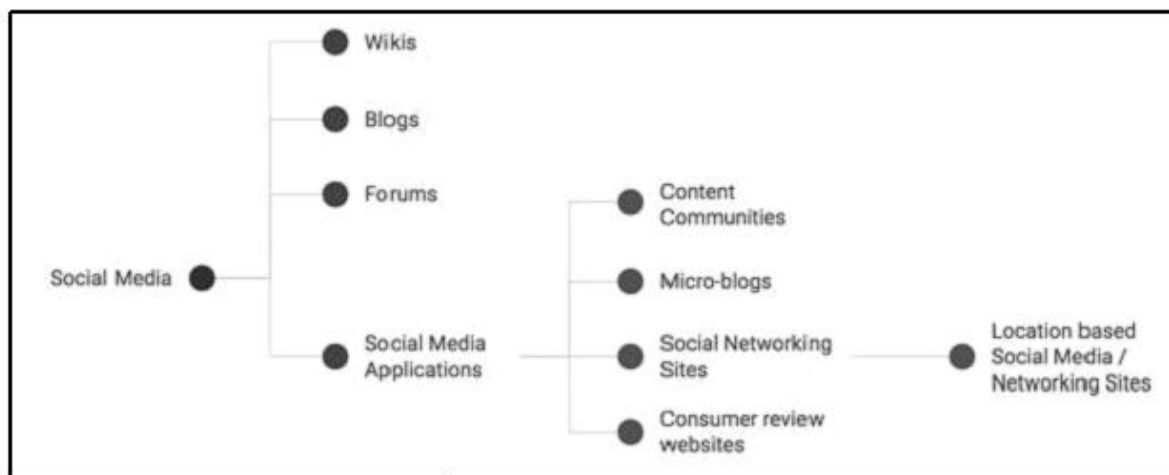


Figure-1: Types of Social Media in Travel Industry (Author, 2018)

According to some previous studies, user-generated contents have a similar meaning to electronic word-of-mouth (e-WoM), (Leung et al., 2013 ; Litvin, Goldsmith, & Pan, 2008). Investigated as a new form of word-of-mouth, that answers to informational needs with a non- commercial, detailed and experiential approach. e-WoM relates to the user-generated content without doubts. However, the concept of sentiment is incorporated, which can be positive, neutral or negative. Moreover, e-WoM are similar with traditional word-of-mouth in purpose but occur in different places. As a fact, e-WoM only exists on the internet (Hart & Blackshaw, 2006 ; Leung et al., 2013).

Similarly to traditional word-of-mouth, e-WoM contents generated within social media influences the travelers' planning process increasingly (Leung et al., 2013 ; Litvin et al., 2008). Statistically speaking, over 90% of customers worldwide trust recommendations from friends

(Živković et al., 2014). Also, 52% of travelers who used social media for leisure trip planning changed their original plans (Živković et al., 2014). Besides, when choosing a destination, the most influential information source is e-WoM (Živković et al., 2014). Ultimately, e-WoM also influences leisure travelers' experiences, by providing information during their trips, and solving issues and doubts (Živković et al., 2014). Earned from its non-commercial nature of e-WoM, travelers consider e-WoM as a highly credible source of information, the most trustworthy among all information sources available (Litvin et al., 2008 ; Murphy, Benckendorff, & Moscardo, 2007 ; Xiang & Gretzel, 2010). As stated by Cao et al. (2017), 89% of travelers from Urumqi, China, value information coming from social media and e-WoM, however only 14% favor travel agencies. As e-WoM is of overwhelming influence in consumer decision, marketers can learn to take advantage of this phenomenon by utilizing new technologies (Litvin et al., 2008 ; Terttunen, 2017).

Most of the promotional activities within the travel industry that utilize Instagram results in active engagement and attraction of potential customers (Hanan & Putit, 2013). Even without using Instagram Ads, given the massive community of users interested in travel-related contents, businesses can take advantage of Instagram's free tools and natural engagement to raise awareness, loyalty, and build a strong 'follower' base.

Moreover, marketers can leverage on hashtags as a means to get more exposure for their posts and brand or destination. Similarly, location tags are used mostly in the travel Industry to reach a more targeted audience (Fatanti & Suyadnya, 2015 ; Terttunen, 2017). Instagram Stories help to reach consumers and perform as a daily reminder to users of the brand or destination as a way to prompt them to reach out. Highlights are especially useful for brands and destinations to showcase their products, services, activities, and live video is a great way to broadcast any types of events live and get more exposure.

Among all functions of Instagram detailed earlier, the author identified four features that can be adapted for travel planning. The hashtag is exceptionally efficient when used to search for related information and content such as a destination, a travel trend, travel communities, activities, eatery, or inspiration (Fatanti & Suyadnya, 2015). Location tags can be used as an address-based knowledge when used to search for information and content related to a place, whether it is a country, a region, a city, a district, or more specifically a restaurant, a landmark, or a business. Bookmarking and collections allow users to save any post shared on Instagram and store them into collections. This feature is particularly interesting and useful for travel planning. Instagram Stories can be viewed by any users passively, and create immediate inspiration, helping the viewers see new aspects of a destination or an overall experience of any other users. Live video can be viewed by any user actively. They can interact with the broadcaster and ask questions about the moment that is being experienced. With numerous tools available, and a tremendous amount of travel-related content, Instagram has a considerable potential regarding travel planning. Therefore, Instagram is also an influential platform for travel decision making.

### **3. RESEARCH METHODOLOGY**

There are two possible research methods, quantitative and qualitative, and their common goal is to collect data for a particular research problem (Ghauri & Grønhaug, 2005). Qualitative research aims to collect explorative, analytical and intuitive data (Ghauri & Grønhaug, 2005), allowing researchers to interpret phenomena without being dependent on statistical measurement (Zikmund & Babin, 2007). Meanwhile, quantitative research is an empirical study that aims to collect, analyze and utilize numerical data (Zikmund & Babin, 2007). Quantitative findings derived from large-scale data can be used for description or ranked order with graphs and charts. The most common method to quantify and describe empirical data is through a survey (Zikmund & Babin, 2007).

Quantitative research is suitable for a descriptive research design in which researchers describe phenomena by establishing specific research questions and hypotheses to seek relationships between variables (Bryman & Bell, 2015). Based on the objectives of this research, which are looking for descriptive statistics, the quantitative research method was more practical and suitable (Bryman & Bell, 2015).

Among all types of data collection tools, the choice of online questionnaires has been decided. Since, the online survey is a widespread and efficient data collection tool, effort, time, and cost wise, for both the respondents and the researchers (Bryman & Bell, 2015). Questionnaires can be pre-coded, which allows a simplified data collection and analysis for researchers (Bryman & Bell, 2015). This approach also brings more consistent data, considering that interpersonal factors do not influence respondents with an online survey, as it may happen when using face-to-face interview (Bryman & Bell, 2015).

As for drawbacks, online questionnaires require Internet access for both the respondents and the researchers (Sue & Ritter, 2011). However, this study required the respondents to be users of Instagram. Thus, the drawback of Internet access became a supplementary filter. Fixed questions might cause biases as respondents



are forced to provide answers even if their knowledge was not sufficient concerning the topic (Sue & Ritter, 2011). Also, the respondents themselves may induce a risk of bias, as some questions may not be answered honestly, or conscientiously (Sue & Ritter, 2011). Moreover, the language barrier is also a risk of bias, because even if English is widely spoken in Hong Kong, it is not the primary language, and there are wide disparities associated to educational level. Intending to diminish the risk of bias, filtering questions and an adequate sampling technique have been employed.

Compelling to the ethical issues' avoidance, the consent of all participants has been asked, the right to anonymity has been given and along with the choice to whether or not answer to practical demographic questions, such as Income level and educational level. Also, the decision to set the minimum age of participants to 18 for this study has been made. The duration of the questionnaire has been designed to be around 5 minutes, which seems to be an adequate time frame to gather enough information and be short enough to keep respondents' attention.

Besides, the questionnaire has been divided into eight sections, including some introductory questions that helped filter the respondents who were not belonging to the target population. Then, over the decision-making process, each stage of travel had their distinctive unit, respectively dreaming stage, planning stage, booking stage, experiencing stage and sharing stage. The seventh part has been made mainly to collect data related to the use of Instagram features along with the general influence of Instagram on travel planning. Ultimately, the final section was about demographics data collection and frequency of use.

**5. RESEARCH RESULTS AND FINDINGS**

This following section will concentrate on presenting and analyzing the data collected from the online questionnaire. As a reminder, the sample size is (N=114) of exploitable data entry and collected among Hong Kong residents who have taken at least one leisure trip during the last 12 months and have used Instagram during the past 30 days. Each item of the online questionnaire relates with one of the research objectives, shortened and modified to be comprehensible by the respondents to avoid potential bias of misunderstanding and conscientiousness.

**5.1. Research findings**

**5.1.1. Demographic characteristics of the sample**

Since approximately 500 individuals received the survey, an approximate response rate would be 20% to 30%. The demographic characteristics are described as follows, refer to table 1.

The first observation is the difference in term of gender distribution, where 65,79% were females while 34,21% were males. Regarding the age of respondents, 60,53% were between 18 and 24 years old. 28,95% had from 25 to 34 years old. Plus, 10,53% were older than 35 years old.

In term of educational level (Hong Kong educational system), 1,75% attended secondary school as their highest educational level. 5,26% went to post-secondary level. 58,77% of respondents went to undergraduate. 31,55% reached a postgraduate level of education or above. Also, the remaining 2,63% of the respondents did not share their educational level.

Regarding the income level of respondents, 24,58% of respondents had an income below 10000 HKD (Hong Kong Dollars). 13,16% were paid between 10000 and 12999 HKD, 9,65% had an income situated between 13000 and 14999 HKD. 11,40% received between 15000 and 19999 HKD. 10,53% of the respondents earned between 20000 and 34999 HKD. Still, 6,14% paid over 35000 HKD. Hence, 19,30% declared they do not have any fixed income, they are either unemployed or get commissions. Finally, 5,26% of the sample did not wish to answer that question. When it comes to marital status, 76,32% of respondents were single, while 23,68% of them got married.

Concerning travel frequency, Hong Kong residents travel intensely, about 28,95% of respondents travel about once a year. Another 28,85% travel about 2 to 3 times a year. 23,68% of them takes 4 to 6 leisure trips per year. While 10,53% travel 6 to 9 times a year. Also, 7,89% travel more than 10 times a year.

The Instagram usage frequency was high, 92,10% of respondents used Instagram daily, and 27,19% declared using Instagram at an hourly rate.

**Table-1: Demographic characteristics of the sample**

Dimension		Number	Percentage
Instagram Usage	Hourly	31	27.19%
	Daily	74	64.91%

Frequency	Weekly	6	5.26%
	Monthly	3	2.63%
Leisure Trip Frequency	Once a year	33	28.95%
	2-3 times a year	33	28.95%
	4-6 times a year	27	23.68%
	6-9 times a year	12	10.53%
	More than 10 times a year	9	7.89%
Gender	Male	39	34.21%
	Female	75	65.79%
Age	>=18 and <=24	69	60.53%
	>=25 and <=34	33	28.95%
	>=35	12	10.53%
Educational level	Secondary School or below	2	1.75%
	Post-secondary Level	6	5.26%
	Undergraduate	67	58.77%
	Postgraduate or Above	36	31.58%
	Would rather not say	3	2.63%
Income Level	Below 10000 HKD	28	24.56%
	Between 10000 and 12999 HKD	15	13.16%
	Between 13000 and 14999 HKD	11	9.65%
	Between 15000 and 19999 HKD	13	11.40%
	Between 20000 and 34999 HKD	12	10.53%
	Higher than 35000 HKD	7	6.14%
	Without Fixed Income	22	19.30%
	Would rather not say	6	5.26%
Marital status	Single	87	76.32%
	Married	27	23.68%
	Would rather not say	0	0.00%
Total Respondents		138	121.05%
Respondents Belonging to Target Audience		114	100.00%

5.1.2. Use of Instagram in the 5 Stages of travel

As mentioned earlier, respondents were asked about their use of Instagram on different stages of travel to have an overview of how influential Instagram is regarding travel decisions.

5.1.2.1. Dreaming stage

For the dreaming stage, respondents were asked if they get inspiration on Instagram, about their future leisure trip. The result shows that 84,21% of respondents get inspiration by following travel-related accounts. 89,47% get inspired after seeing a travel-related post. 71,05% even wanted to search for more information after seeing a travel-related post. Also, 68,42% of respondents use Instagram to search for destinations ideas. As illustrated in figure 2.

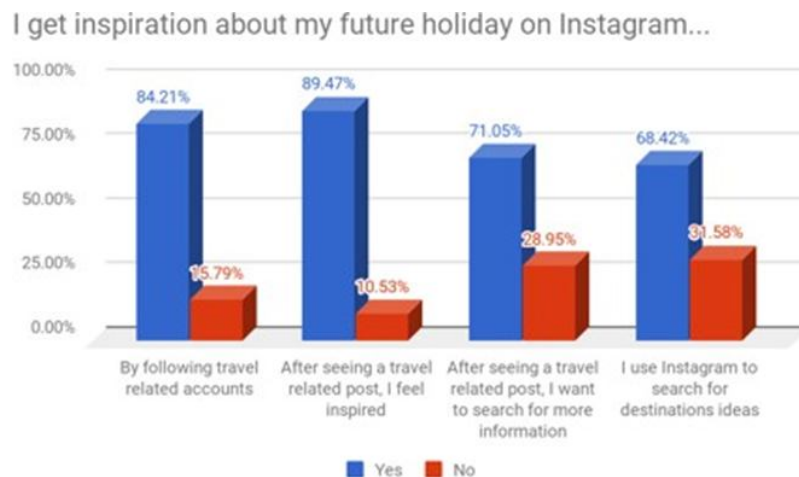


Figure-2: Use of Instagram in Dreaming Stage

**5.1.2.2. Planning stage**

Concerning the planning stage, only 39,47% of respondents answered that they use Instagram to narrow down their choice of destination. 52,63% use Instagram to exchange information for trip planning. 55,26% use Instagram to seek information on accommodation options. However, 76,32% use Instagram to find information about activities and attractions, more commonly 'things to do'.

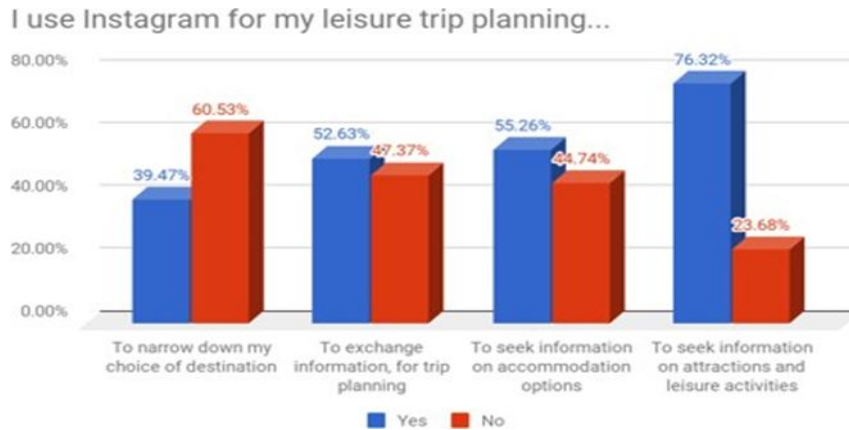


Figure-3: Use of Instagram in Planing Stage

**5.1.2.3. Booking stage**

When it comes to the booking stage, 42,11% of respondents use Instagram to confirm that they made a good destination choice. 28,95% of them to confirm their accommodation choice. 31,58% affirmed that they could consider booking directly after seeing an advertisement on Instagram. Also, 55,26% of them share their feelings on Instagram right after booking a leisure trip.

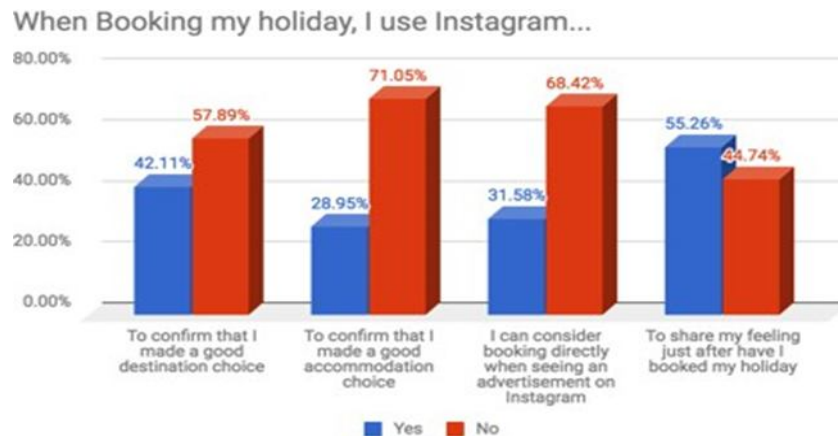


Figure-4: Use of Instagram in Booking Stage

**5.1.2.4. Experiencing stage**

Regarding the experiencing stage, 60,53% of respondents use Instagram to find out information about specific activities, or 'things to do'. 57,89% use Instagram to find out information about eateries. 92,11% of them use Instagram to share moments of experience. Moreover, 94,74% use Instagram to stay connected with their friends while they are on a leisure trip.



Figure-5: Use of Instagram in Experiencing Stage

5.1.2.5. Sharing stage

Finally, 78,95% of respondents use Instagram after their trip to share their opinions about their destination choice. 47,37% to share their point of view about their accommodation choice. 71,68% to share their opinion about 'things to do'. Moreover, 94,74% to share photos of their trip.

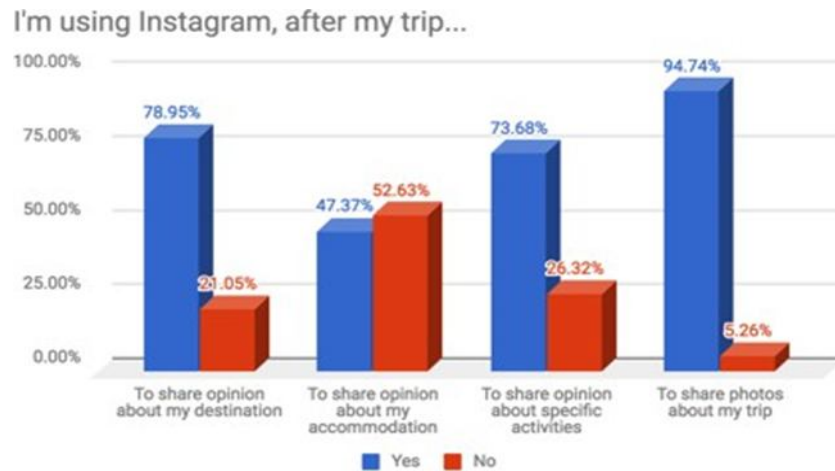


Figure-6: Use of Instagram in Sharing Stage

5.1.3. Overall use and influence of Instagram

5.1.3.1. Overall use of Instagram in travel decision-making

The data obtained for each stage has been combined to get the overall use of Instagram. Therefore, 78,29% of respondents use Instagram during dreaming stage, 55,92% during planning stage, only 39,47% during booking stage, 73,68% during experiencing stage, and 76,32% during sharing stage.

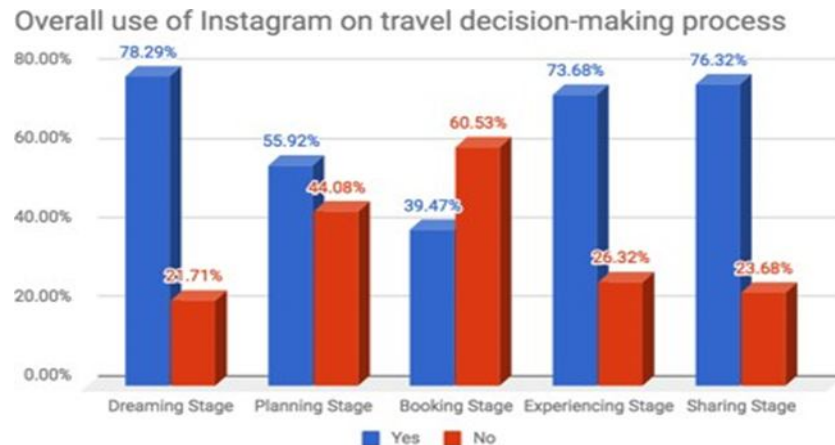


Figure-7: Overall Use of Instagram in Travel-related Decision-making Process

5.1.3.2. Overall inspiration given by Instagram

When looking at the trend lines, Instagram did not seem to give inspiration to the components of travel decision-making process, except for the choice of restaurant. So, the other trend lines balance toward 'not getting inspired', especially for the accommodation choice.

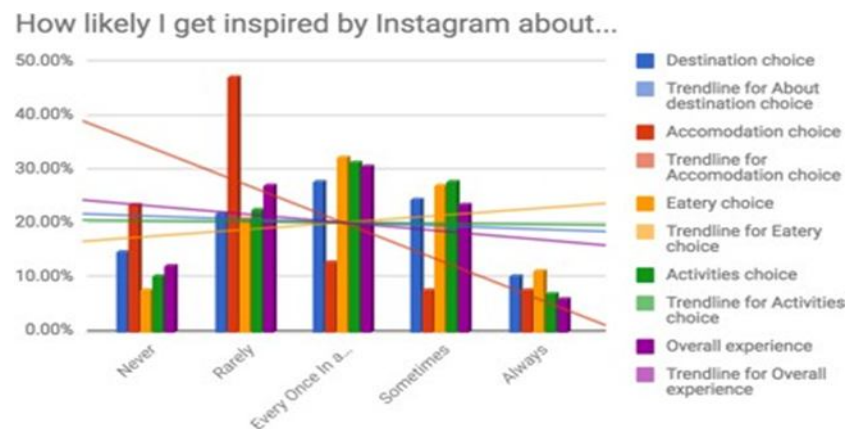


Figure-8: Overall Inspiration Given by Instagram (Likert Scale)

However, when looking more closely at the data, only a few respondents answered that Instagram never inspires them. Regarding destination choice (14,91% of respondents), about accommodation choice (23,68%), with restaurant choice (7,89%), concerning activities option (10,53%), and in the overall experience (12,28%). In other words, 85,09% of respondents declared being (at least rarely) inspired by Instagram for their destination choice, 76,32% inspired for their accommodation choice, 92,11% inspired for restaurant choice, and 89,47% inspired when making activities choice. Also, 86,14% declared that Instagram inspires their overall travel experience.

## 7. SUMMARY OF THE CURRENT STATUS

The trends related to traveler behavior and Instagram steady growth had awakened the curiosity of the author, which gave rise to the paper that aims to 'understand the role of Instagram in leisure travel and to describe its impacts on consumer behavior'. The objectives are believed to be mostly attained.

As the literature review revealed a clear and harmonized framework when it comes to the taxonomy of social media, refer to figure 2.1, along with an overview of the features of Instagram that could enhance travel industry. An analysis of the decision-making process in travel industry helped to understand which decision-making process could be used consumer- side, and which would be beneficial in businesses' and marketers' point of view. The choice made for this study was to adopt the 5 stage of travel initially introduced by Google (Advance 360, 2015 ; Bitzer, 2012 ; Fotis, 2015), supported by the three trip steps for a better understanding of consumers. The overall output of the literature review is a comprehensive framework adapted for primary data collection in view to get the answer through a questionnaire.

The study, based on an online questionnaire, has found that Instagram was adopted at each stage of the 5 stages of travel. Respondents were using Instagram more during the dreaming stage (78,29%), then experiencing stage (73,68%) and sharing stage (76,32%), but could have been more when it comes to booking stage (39,47%). Concerning the influence of Instagram in making travel plans, the level of influence varies significantly among respondents. However, in general, Instagram use does impact travel plans, by inspiring (at least rarely) 86,14% of Hong Kong Instagram users and by influencing (at least rarely) 81,58% of users toward changes on travel plans. Not surprisingly, the most considered sources of information for travel planning were Instagram, blogs, search engines, Facebook and traditional word-of- mouth.

Also, about the features of Instagram for travel planning, location tags (71,05%) have been found to be more widely used than hashtags (60,50%). Booking and collections are not known compared to other features (76,32%). Moreover, a considerable amount of Hong Kong Instagram users knew Instagram Stories (94,74%), among whom all were using this feature (100%).

The most considered type of content are photos (86,84%), and longer text tends to be some more considered than short texts. Also, Hong Kong Instagram users consider contents related to activities the most (73,68%).

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**HUMAN VALUES AND BUSINESS ETHICS: NEED FOR SUSTAINABLE DEVELOPMENT.**

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**ABSTRACT**

*Human Values are very important for Sustainable Development as because all successful persons in the world have always a set of moral values with certain philosophy and belief for holistic approach in all respect and on the basis of shared vision and commitment and by understanding the supreme values of 'Truth, Beauty and Goodness'. They are corresponded to somewhat closely to three main aspects of our conscious life i.e. 'Knowing, Feeling and Acting' and its degree of thoughts.*

*Business Ethics have been understood by many ways about 'good and bad', 'right and wrong', 'virtue and vice' and considered as normative science so as to say 'what is right and what is good' for the people and planet of universe and should be the main objective to make profit for own business for Sustainable Development.*

*Since working and doing Business under the concept of Western Philosophy and Practice as 'Profit at any Cost' has created a chaos in business world and the resultant has been established as: crisis in confidence, widespread of corruption, recurrent of labour-management conflicts and moreover consumers are frequently cheated and/or by-passed, nature is exploited and unfortunately the victim has been ethical behaviour and future generation.*

*Accordingly my present paper is an attempt- a modest attempt in deed to establish and justify 'Human Values and Business Ethics' play a vital role for 'Sustainable Development' with help of different moral and ethical theories and philosophies in descriptive manner.*

*Keywords: equality, equity, ethics, human values, supreme values and sustainable development.*

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**INTRODUCTION**

**Values** are enduring belief which are developed or formed by direct learning and by identification. The child learns through the training and imitating from parents and perceives at home, in the school from teachers and gradually from peer and from the mass media as well as from environment & surrounding.

Values are different types based on racial ethnic, religion and even political ground and various theories and discussion have expounded on the three dimensions of Sustainable Development i.e. Social, Economic and Environmental. Once we want to be a successful person we have to set our values with certain principals & philosophies and beliefs e.g.

- 'We' Dimension Not 'I'
- Live and Let Live
- Deontology Theory of Morality
- To grow along with other and not at the cost of other.
- To balance Materialism & Idealism with help of Vedic Philosophy 'PREYAS & SHREYAS'.

According to such beliefs, **Human Values** are very important for holistic approach in all respect on the basis of shared vision & commitment and by understanding the supreme values of Truth, Beauty and Goodness. They correspond to somewhat closely to the three main aspects of our conscious life i.e. Knowing, Feeling and Acting. We learns by degrees –

- To know what is True/Truth
- To appreciate what is Beautiful, and
- To do what is Right.

There are several philosophical debates over values like Ethics, Equity & Equality. In fact these all are dependent upon a certain belief, desire and evaluation a person possesses for his/her action. Therefore **Human Values** act as base for thoughts, actions, skills and behaviour and mould good character i.e. 'Integrity' as understood in the West and 'Dharma' in the East.



Secondly, the term '**Business Ethics**' refers to the system of moral principles and rules of the conduct applied to business. Business being a social organ shall not be conducted in a way detrimental to the interests of the society and the business sector itself. Every profession or group frames certain do's and do not's for its members. The members are given a standard in which they are supposed to operate. These standards are influenced by the prevailing economic and social situations. The codes of conduct are periodically reviewed to suit the changing circumstances.

Business ethics generally are built upon four basic foundations: attitude, value, behavior, and normal customs and expectations. The study of business ethics may stray into fields of law, but more often than not deals with the behavior, expectations, and demands of common courtesy, manners, honesty, and integrity.

Unethical business behaviors damage productivity and living standards. Such practices also affect social, as well as environmental, degradation that results in damage to many aspects of society, which results in lack of trust. Businesses have become increasingly competitive and the value of products and their manufacturers has gone far beyond price-per-unit or the function they perform.

As such understanding business ethics provides a way for individuals to resolve ethical dilemmas, as well as to garner a respect for honesty, development of trust, a sense of fair play, and human dignity issues. Obligations between employers and employees are just as important as the observation of ethics in every avenue of business, from sales and advertising, to and marketing and competition.

Today, there is an increasing focus on the environment and other global societal issues leading to the quest for Sustainable Development in almost all aspects of our lives. This is because the desired quality of life is no longer limited to a better economic standard of living but intrinsically linked to ecological and social sustainability. The emerging concept of sustainable development portends a great potential for human well-being in which the development aspect is concerned with human evolution and activities on both the social and economic levels, while the sustainability aspect addresses the stress that such a development places on the environment.

Therefore commitment to sustainable development agendas should therefore be a rational choice based on ethical reasoning, with the understanding that ethical behaviour is closely connected to the welfare of society as a whole, because rational behaviour is much more than rational self-interest, where rationality requires us to consider the interests of others as well as ourselves. Sustainability and ethical principles are intertwined because sustainability concepts cannot be applied without strong ethical principles.

This study is therefore directed at exploring the gap with the objective of determining the possible influence of ethical values to attaining sustainable development. As such, attempt is being made at reviewing the concept of Sustainable Development on the basis of human morality. Thus, a return towards ethicality as the main drive and as background to expounding on the various dimensions of sustainability is proffered and the main objectives of this study are as under:

#### **OBJECTIVES OF THE STUDY**

- To develop both analytical and moral abilities (logical & aesthetic) for taking decision in situation which are on the basis of self diagnosis.
- To understand Law, Morality, Self and Society which provide a general guidelines for decision making that is an essential function of human social life and for Sustainable development.

#### **RESEARCH METHODOLOGY**

"Descriptive and based on Secondary source".

#### **LITERATURE REVIEW**

Due to increase in poor human values in the society unethical behaviour is being experienced like scams, fraud, bribery, pollution, exploitation, adulteration, malfunctioning and ultimately 'Man' in term "Manager" stands nowhere, workers are dehumanized and demoralized, consumers are by-passed, human welfare is sacrificed, nature is exploited, the environment is polluted, The Soul is lost. Yes! Wealth is gained, enjoy at the cost of others and resultant is Inward & outward unrest, Disorder of life, conflict and breakdown and therefore it is misfit in any society, people hate them, reject them and not accept them at any cost, at any time or at any circumstances.

Human Values also intend to believe self motivation, self actualization, self discipline and selfless attitude and insist us to provide voluntary services to the society, community and nation at large by loving mankind and promotes general welfare.

This is 21<sup>st</sup> century, century of Globalization and the century of fully developed technology of Consciousness, where human values and their shared vision & commitment to moral and high ethical values as global philanthropy are appreciated to perform the overall development of the nation to get a place in the world. Look behind successful, honest businesses and you will see a set of values that have stood the test of time. Think about how these values are communicated in your organization and what you can do to support them.

Philanthropy means doing good to others. This word has been derived from the Greek Words 'Philein' means to love and 'anthropos' means 'man'. Thus, philanthropy means love for mankind. It refers to charity which promotes general welfare. It is thus 'a love of humankind expressed in terms of charity for promoting the welfare and progress of society as a whole'. It has an element of voluntary service, as it implies volunteering one self or resources for well being of public at large. It refers to the practice of corporations of making charitable contributions to address a variety of social, human and other issues as part of their overall corporate citizenship strategy. Corporations can voluntarily make contributions through gifts of cash, goods and services for the welfare of the public at large. Corporate philanthropy is an important aspect of the broader concept of corporate citizenship, or a modern form of corporate social responsibility. Someone who practices philanthropy is known as a 'Philanthropist'.

Corporate philanthropy has become a Global Concept. Many global organizations are treating this as a strategy to earn 'Goodwill' create 'Public image, and improve Business Horizons. They are spending a lot for a good cause and have a strong desire to help the mankind. Global Philanthropy improves domestic relations, international relations, relations within the society as a whole and last but not the least the exchequer of an economy as a whole.

Carroll Buchsoliz Terms corporate philanthropy as "Business Giving", that results in tax saving goodwill and reputations as it includes various actions like.

- Contribution of funds, goods and services for socio-cultural purposes.
- Training of employees and students.
- Free health care, education and social services etc.
- Environmental protection.
- Transparency in dealing with stakeholders.
- Upliftment is quality of life / living condition of society.

As such, there are various benefits of Global philanthropy. The major benefits are as under:

- It enhances the public image and reputation of the corporation.
- It brings new customers to the corporation and increase their loyalty.
- It strengthens the employees commitment & loyalty which heads to higher productivity.
- It helps the corporation to expand their operations to new markets.
- It sustains health and welfare of the local community where the company's productive facilities are located.

These days integration of philanthropy with business is increasing. Integration of business with philanthropy creates a win-win situation both for the society and for the organization. Therefore Value based and holistic approach in business, organization, society, family and even in one's own life enable to lead much better more qualitatively superior life, environment, pleasure on face of others and the unity of universe. Accordingly 'stand up, be bold and take the whole responsibility on your shoulders and know your own destiny with your all inculcated values & ethics, you will find that all the strengths which you want and desire are within yourself. Therefore make your own future with all values & ethics.

'According to Milton Rokeach, Values are as "beliefs that guide actions and judgments across a variety of situations". People differ in their values, and so it is not surprising that their judgment of the same object, person or situation differ and that they behave differently in the similar situations. So value is an enduring belief that a specific mode of conduct or end state of existence is personally and socially preferable. Once it is internalized, i.e. one we thought in the way of belief part, it becomes consciously or unconsciously – a standard for

- guiding action
- developing and maintaining attitude towards relevant objects and situation
- justifying one's own and others actions and attitude for morally judging oneself and others and for comparing oneself with others.

As such Value is a standard or yardstick to guide actions, attitudes, evaluations and justification of the self and others. Further we may say that values are tinged with moral flavour involving an individual's judgment of what is right, good or desirable. Thus Values –

- provide standards of competence and morality
- transcend specific objects, situation or persons
- are relatively permanent and resistant to change
- are most central to the core of a person
- influence attitude & behaviour
- are intrinsic wealth integrity, character,
- are logical and aesthetic by understanding the supreme values of truth, beauty and goodness.

As we have already discussed that people differ in their values, it is also surveyed and found that values differ from nation to nation like the American concept of human values is by considering an ideal person puts high value on such qualities as personal output of energy, ability to adjust mobility, optimism, competitiveness fair play cooperation, honesty, prestige and efficiency and accordingly it is said by Farber (New York) that "American Child is expected to develop a market place personality" with emphasis on ambition getting ahead popularity, initiative and friendliness when French put more emphasis on thrift and individuality and the German put more emphasis on work and discipline.

In America, the cultural system has two distinct parts – the general American Culture and – the various subcultures based on social class and / or ethnic group.

Each subculture as well as the general culture has its own values. It may also be said for India that in India, different regional cultural values differ and they differ in a very high degree because of unbalance development of different regions. In spite of all these "One is to work for one's inner growth and for the good of the world." And "Let us all protect, nourish, work, share and study together and grow together, without hating each other".

And Milton Rokeach created the Rokeach Value Survey (RVS) which consists of two sets of values depending upon its nature :

1. Terminal Values: Refers to desirable end states of existence, the goals that the person would like to achieve during his or her life time. It takes a comparable form : I believe that such and such an end state of existence (eg. Salvation, or world at peace etc.) is personally and socially worth striving for.
2. Instrumental Values: This relates to a single belief that always takes the form. I believe that such and such a mode of conduct (eg. Honesty, courage etc.) is personally and socially preferable in all situation with respect to all objects. It is a tool or means for acquiring a terminal value.

According to Hindu philosophy or in Vedic philosophy two attitudes to life or work are mentioned one is PREYAS which gives us temporary and local pleasure or comfort to body. It is purely selfish and personal in nature, and in the long run it brings sufferings and disharmony to life. The other is SHREYAS which gives or spiracles happiness to all comes after a good deal of work and sacrifice but it is permanent universal and harmonious in nature. Attitude or management based on materialism or narrow minded hero may be called the ways of PREYAS, while attitude or management based on human values and liberal humanism are called the ways of SHREYAS. The ethics of management lead us to the ways of SHREYAS.

### **ANALYSIS**

In spite of knowing and feeling all such beliefs and as supreme human values of truth, beauty and goodness, there is a challenging task for the people in this Business World how to act and how to do business in this global competitive business market. Therefore by understanding and considering the multidimensional views about 'good and bad', 'right and wrong', 'virtue and vice' and then to decide 'what is right and what is good' for the

people and planet of universe and accordingly set main objective to make profit for own business for sustainable development.

Business Ethics provides a way for individuals to resolve ethical dilemmas, as well as to garner a respect for honesty, development of trust, a sense of fair play, and human dignity issues. Obligations between employers and employees are just as important as the observation of ethics in every avenue of business, from sales and advertising, to and marketing and competition.

Therefore Business Ethics is to be considered as a systematic study of ethical matters pertaining to the business, industry or related to activities, institutions and beliefs. It is a systematic handling of human values like Honesty, Integrity, Responsibility, Quality, Trust, Respect, Teamwork, Leadership, Corporate Citizenship and Shareholder Value. Accordingly corresponding to basic human needs, credibility with the employees and in the public, protection of environment and future generation and then profitability Business Ethics should take into consideration the followings:

- A business should aim to have fair dealing with everyone dealing with it.
- Ethics should be fixed for everyone working in the organization at any level and their implementation should be linked with reward-punishment system.
- Any violation of ethics should be detected at the earliest and remedial measures taken immediately.
- Business ethics should be based on broad guidelines of what should be done and what should be avoided.
- The ethics should be based on the perception of what is right.

## CONCLUSION

The most important human endeavour is the striving for morality in our actions. Our inner balance and even our very existence depend on it. Only morality in our actions can give beauty and dignity to life i.e. the essence of Human Values.

A rational choice based on ethical reasoning, with the understanding that ethical behaviour is closely connected to the welfare of society as a whole, because rational behaviour is much more than rational self-interest, where rationality requires us to consider the interests of others as well as ourselves.

Keeping in view that “we have not inherited the earth from father, we are borrowing it from our children” there is a clear duty to act to save live and the environment of today and those of the future on the ethical basis of religion that connotes God-consciousness, Personal Conscience and Self accountability we may face all the challenges for Sustainable Development.

Therefore this paper is an attempt to discuss the basic concept of Sustainable Development on the basis of Human Values arising from established Ethical System and very much conclude that “We cannot apply Sustainability concepts if we do not follow Sustainability Principles and have a strong foundation of Ethical Principles with altogether”.

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**EFFECT OF EMPLOYEE AGILITY ON INNOVATION WITH REFERENCE TO START-UPS**

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**ABSTRACT**

*In this era of market and entrepreneurial economy we are seeing more and more companies are getting started every year. But statistics says 90 % of the start-ups fail and that too 10% of start-ups fail with in first year itself. For any start up to be successful the core lies in its ability to be very innovative, to be agile enough to respond to the competition, to be very creative in creating new products and services. If Apple or Amazon has survived this long it is only because they have managed to create a culture which fosters agility, creativity and innovation. They have shown that more than the opportunity and luck it is the Innovation that is considered the key actions in the process of entrepreneurship. Even when it comes to human motivation organisations like FedEx provides an environment where an employee can explore the creative side 1 day in week where they are allowed to do anything other than their routine work. Even in Google such a practice is prevalent. Most of google products Like Google map etc have been the outcome of such activities which has produced novel creative products.*

*Keywords: Start-ups, Creativity, Innovation, Agility*

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**OBJECTIVE**

- To analyze the importance of innovation for sustainable organization.
- To understand the challenges faced by the startups in survival.
- To explore the role of agile workforce in Innovation.
- To demonstrate the agility practices in startups.

**INTRODUCTION**

World has witnessed 3 eras of management from Industrial to knowledge to Digital. The rules of game have changed dramatically. That clearly reflects in every functions of the organisation. Frederick Taylor, issued from scientific management, a breakthrough insight that optimized labour productivity using the scientific method; it opened an era of unprecedented effectiveness and efficiency. Taylor's ideas prefigured modern quality control, total-quality management, and—through Taylor's student Henry Gantt—project management.

The three words—transformation, agility and innovation—seem to be linked together in some sort of mutually dependent relationship. When one of these words is applied to a company, there is great likelihood that the company will also be described by the remaining two.

I spent some time perusing articles about these two qualities and how companies might benefit from them. I expected to find a lot of articles steeped in market-speak and linked to all manner of quadrant graphics. My search results did not let me down; there were plenty of both.

While innovation and agility are certainly not mutually exclusive, they are still two very different things. It is important to understand this because there is, too often, an assumption that accomplishing one will also ensure the presence of the other which is true.

Karine Sabatier provides an excellent summation of this in her February 2018 article, “Being Innovative and Being Agile Are Different.” She neatly sums up this assertion with two succinct definitions: “Innovating is creating change. Being agile is adapting to change.”

I find that observation to be quite profound.

Consider those two definitions, and then consider how many people you know who are wired to excel at both? Not too many folks spring to mind, right?

People who obsess over creating a new world are focused toward the future. Innovation is about creating a new future.

People who obsess over agility are focused on effectively reacting to the present or recent past. Their focus is very much on the here and now.

All of this is not meant to imply that one or the other is bad or good, nor are these qualities useless for companies embarking on a path toward digital transformation. In fact, they can be quite useful when applied properly.

Innovating is not buying all the technology available and funding massive implementation projects, and it is not simply understanding strengths, weaknesses, the market and customer needs. It is all about quickly gaining that knowledge and effectively acting on it in a way that is unique, new and efficacious. Innovation in start-ups is the ability to repeatedly apply the perfect technology to the specific problem you are trying to solve. This is the same if you are fixing your HR group or your manufacturing or sales operation. There is no one size fits all in digital transformation.

Each problem is unique, and usually each solution will be unique as well. When the solution involves technology, it is all about choosing the right technology, not about how much or how expensive that technology might be

Innovation does not start with knowing what technology you need; it starts with understanding the process you are trying to improve. That understanding must include an accurate appraisal of the shortcomings, weaknesses and failures of the process along with understanding its strengths. Above all, it includes an understanding of the intended purpose of the process.

### **AGILITY**

Agility is not borne of faster close rates or reduced product development cycles. Agility is the ability to quickly translate knowledge gained into positive action.

Agility is knowing what direction your competition is moving in, where the market is going and what your customers will want next month and next year.

In the implementation of digital solutions, agility is evidenced in the ability to quickly observe, understand and react to changes in market, or other external influences.

Knowing in advance that political instability in the country you source some essential raw material from will escalate within a short time to make that critical material unavailable is an example of how agility is enabled.

The agile reaction is to have redundant sources, alternate designs or other mitigating measures ready to deploy as soon as they are needed.

An Agile Organization is one that is quick in responding to changes in the marketplace or environment. ... A highly agile organization reacts successfully to the emergence of new competitors, rapid advancements in technology and sudden shifts in overall market conditions.

This is a necessity for all start-ups because 1 ) to raise above the competition 2 Swiftly respond to internal and external customers. Big Companies which has huge hierarchy and a stringent process has not been able to capture the market share in middle east countries as much as what small starts ups / companies which are less than 5 years old has done. It is Primarily because of lean process which has enabled swiftly to the market and customer demands. them to respond Organizations must build agility and resiliency to perform effectively in turbulent environments. To increase agility, HR uses practices such as eliminating jobs and management layers, broadening job scope and using teams (Peterson, Day, & Mannix, 2003). Design solutions such as eliminating non-core activities through outsourcing or off-shoring also have become ways of better aligning businesses, downsizing and speeding response times, so that companies can become more agile (Goldman, Nagel & Preiss, 1994; Pal & Pantaleo, 2005). Organisations Agility can be measured in terms of weather

- ❖ It is open to change.
- ❖ It is actively and widely scans for new information about what is going on.
- ❖ It is good at making sense of ambiguous, uncertain situations
- ❖ It takes advantage of opportunities quickly.
- ❖ It is good at quickly deploying and redeploying resources

When pressure is applied, the agile organization reacts by being more than just robust; performance actually improves as more pressure is exerted.4 Research shows that agile organizations have a 70 percent chance of being in the top quartile of organizational health, the best indicator of long-term performance.5 Moreover, such companies simultaneously achieve greater customer centricity, faster time to market, higher revenue growth, lower costs, and a more engaged workforce.

**CREATIVITY**

While the business environment requires a certain level of built-in routine in order to maximize productivity, that doesn't mean you can't have creative fun at work. Remember what Peter Drucker taught us: "The business enterprise has two—and only two—basic functions: marketing and innovation." So what does that have to do with creativity? Just this: when you reduce it to its essentials, innovation is creativity.

Innovation facilitates the agility and flexibility all organizations require to survive. So how can you increase innovation in your organization? Let's look at a few possibilities.

**1. Foster an open, creative work environment.**

To foster creativity, some companies provide workers with snacks, games, and "time off" during work hours. Google allows developers to work on their own projects one full day per week. Among other things, this has resulted in nifty services like Google News—so obviously, the approach works. You may not be able to offer that much freedom, but at least you can encourage communication, a positive attitude, and a low-stress environment. All these can support the greater mental flexibility and unshackled thought that result in profitable innovation. Team bonding events like retreats can also work, as long as you don't make them competitive or stressful.

**2. Motivate your team.**

Positive reinforcement in the form of rewards, bonuses, special privileges, comp time, and prizes will keep people on their toes. Not everyone will participate, but many will when they see their efforts have clear benefits.

**3. Encourage diversity.**

A wide range of working styles, thought processes, and viewpoints is essential to avoiding groupthink, where a homogenized team loses the ability to see solutions obvious to outsiders. Innovation can only grow in a well-fertilized field. Rather than stunt its growth, find ways to encourage interaction and the exchange of ideas. Break down information silos between teams by getting them together to exchange ideas. Bring in speakers from outside to offer alternate perspectives. The cross-fertilization that results will blossom into ideas you can profit from.

**4. Provide the proper tools.**

Carpenters can't do their jobs with hammers alone; they also need saws, levels, planes, drills, and miter boxes. Make sure your people get the tools they need: computers, software, education, or training.

**5. Create innovation teams.**

Build teams comprised of members with diverse working styles, experience, and skill-sets, whose primary purpose is to get together to innovate. I've seen this done as a full-time role or one or two days a week. Although some claim spontaneity goes out the window with such teams, solid communal thought, bantering, and brainstorming can result in surprising innovations.

**6. Don't penalize.**

To be truly innovative, you must risk failure. That's just part of the creative mind-set, since you fail more often than you succeed. If your team members fear punishment if their initiatives fail, why should they even try? Always provide a suggestion box, so employees can contribute anonymously. Even in an open environment, some people prefer confidentiality.

While you may be doing fine without innovation right now, at best you're in a holding pattern. Someday, a more innovative player will knock you down a peg...and possibly out of the game altogether. You've heard the saying "grow or die." Nowhere does this hold truer than in the business arena. Even if you provide an absolute necessity, like toilet paper or chocolate, someone can nibble on the edges of your market share with innovative marketing style or new ideas. Don't let them! Get out there and innovate like crazy.

Successful organizations know the significance of innovation in business. Apple is a good example of how effective innovation management can improve your products and scale up your business. After reaching on the brink of collapse, it achieved new heights of success by implementing effective innovation management policy. The success of its innovative management strategies once again brought it in the league of leading organizations. If you are an entrepreneur who wants to learn from innovative management strategies of successful organizations, consider the following thirteen strategies.

In non-technical language, innovative management is any process that involves changes in planning, ideation, technical execution and production of resources in a way that can make a system more functional for people. In context of business, it focuses on two major objectives:



- ❖ Improving operational systems of an organization
- ❖ Enhancing products/services for end-users

In the former case, it takes into consideration the leadership, management and resources that make up the working machinery of an organization. In the latter case, it works on the systems and processes involved in creative and technical aspects of developing a product/service. An effective innovation strategy results in better performance of employees, increased productivity and higher customer satisfaction.

Applying these 13 practices will help you create an effective innovative management strategy that will foster creative thinking in your organization:

### **1. Innovation as an integral value in their business philosophy**

Unlike need-seekers, innovative organizations consider innovation as their core business value. They do not seek innovation as a need-based thing and instead consider it as a continuous phenomenon which is crucial for their growth. By implementing innovation as a fundamental business value, they are able to create an environment that fosters creativity.

### **2. Taking the lead**

The world's leading innovative organizations are always the first ones to lead a trend. From Ford motors to Apple, you will learn that these organizations were the first ones to take initiatives in their respective industries. Ford Motors pioneered the "line assembly" mechanism which introduced mass production of cars, while Apple revolutionized the IT industry with its production of sleek-designed products that enhanced mobility and increased performance.

### **3. Implementation of technology for collaboration**

Truly successful innovative organizations integrate an effective IT infrastructure that enables smooth flow of information. Such a system ensures a seamless sharing of information and access to ideas which results in higher collaboration and better engagement across the organization.

### **4. They exercise an innovation-friendly environment**

All innovation-friendly organizations practice a seamless systems and processes that support creativity at every step. A production manager cannot better the design of products if the finance department is not allowing sufficient budget to execute the process.

Similarly, an IT manager cannot integrate an effective collaborative system in business applications if it lacks a supportive IT infrastructure. For a successful innovation strategy, all your processes and systems have to merge together to make your ideas a reality.

### **5. They measure innovation**

Innovative organizations apply metrics tools for their creative and development processes. Their success depends on how much time and money is spent on implementing innovation in the organization. The following metrics can be used to measure the success of their innovation management:

The amount of time spent in creativity sessions

The amount of money spent on training workers for innovation skills

The extent to which processes and systems are restructured to support innovation

### **6. They are not afraid to experiment with new ideas**

Successful businesses are not afraid take risks where others may be reluctant. By experimenting and risk-taking, they are able to put new products and services on the market and improve their business processes and strategies.

### **7. They fund creative training programs**

An innovative business is run by a creative team. Innovation-minded managers recognize the power of a creative team and never hesitate to spend on their training. Effective innovation training programs motivate employees to find creative ideas that can improve work processes and enhance their productivity.

### **8. They reward creative talent**

The world's leading innovative organizations acknowledge the creative talent of their company with incentives and rewards. By appreciating work of their talented workers, they give them a strong reason to exercise their creative muscles in betterment of the organization.

**9. They have a leadership team that inspires ideas**

A creative leadership team is crucial to inspire the workers for creativity. World's most recognized innovative organizations have a certain pattern of innovative thinking that transitions from top leadership to the junior staff. Leadership stimulates creative thinking that the technical staff implements in their work processes.

**10. They have a shared definition of innovation**

In an organization, the definition of innovation has to be shared unanimously by leadership stakeholders. Unless all the senior management agree upon a unified interpretation of innovation, it will be difficult for an organization to implement creativity at the grass-root level. A contradicting definition of innovation creates glitches in creation, execution and application of innovation in an organization.

**11. They have a machinery to fine-tune creative ideas**

Innovation comes in raw form. It needs to be refined before it could be implemented in a system. Similarly, innovative companies have right people and resources to convert a potential idea into a tangible result. They have intellectual, technical and financial resources to make an innovative concept a reality.

**12. They have an artistic workplace**

Majority of innovative organizations design their workplace to inspire creativity. Google, Facebook, Nokia and Dropbox all have an artistic workplace that induces creativity and stimulate new ideas. No wonder these organizations offer their clients amazingly creative products and services.

**13. They are never complacent**

Innovative organizations are never complacent with their success. They always look for creative and novel strategies that could help them develop their working processes and enhance their productivity.

**CONCLUSION**

Kodak did not venture into digital photography though they had known the technology because they stuck to the old way of doing things and lost its market to Sony. Sony lost its market to Apple in Ipod. Nokia lost its market to all smart phone companies. Recently with Jio and with its plans telecom industry is totally disturbed. Bsnl is almost dying. If we closely analyse there is only 2 reasons.

- ❖ They were finding difficult to change by being Agile.
- ❖ Failed to innovate new strategy / Products

By the time iPod started losing its market Apple came up with iPhone ready with 2 more products. They have always been ahead of the market. Same is the case with Amazon who started as an online bookshop went on create multiple products all the way to firestick. All these would not have been possible without establishing a culture which fostered Agility and Creativity.

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**THE FUTURE OF SUPPLY CHAIN – DATA LOGGING VIA INTERNET OF THINGS (IOT)**

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**ABSTRACT**

*In the era of 1990, the computers connected to the internet were very less around 30,000 to 40,000 but as the time gets changed the numbers gets increased to around 3 million in the year of 2000, and after a decade in 2010, the digits of million gets converted to 2 billion around the year of 2010, and after some time in 2016, around 2 out of 10 people is capable and using the smart home appliances like automatic washing machines, water purifiers, air conditioner, Smart bed, Smartwatches, and many more home Appliances. In 2017, the people become habituated to iPhone's "Siri". There are many more such applications that are changing our lives.*

*The future of entire world is only Internet of Things (IoT), which will transform the real-world objects to an intelligent virtual objects like after a decade mainly in the period of 2030 to 2040, your smart appliances may inform you about what steps to be taken at a required time and it may also inform you about what is need of them. IoT is mainly a network of internet-connected objects able to collect and exchange data or we can also say that internet of things (IoT) is a global network infrastructure with self-configuring capabilities based on standards and interoperable communications protocols*

*This paper mainly focusses on the future of supply chain – data logging via the internet of things (IoT). Data logging is the process of collecting and storing data over a while to analyze specific trends or to records the data based events/actions of a system, network or IoT environment. And apart from this, the data logging also allows information security (is) and auditing staff to analyze system access information and identify suspicious activities*

*The uses of data loggers are required for a multiple of reasons, frequently to ensure compliance with industry-specific regulations, and quality and environmental control procedures. As the time is changing and technology is also changing day - by – day and due to this the data logging is influencing the supply chain in the form of warehouse, logistics trucks delivering the products, to supermarkets chillers in retail environments, and new high tech monitoring solutions on the market provide opportunities that greatly simplify the process, and many more.*

*As a result, an enormous amount of data being generated, stored and being processed into useful actions that can "command and control" the things to make our lives much easier and safer. For solving up these problems the methods used like the makings of projects, using a mix of public and private infrastructure also can help protect data, using an independent infrastructure such as cellular service to send data, LTE-M and LTE-NB use existing cellular towers and it provides much broader coverage.*

*The IoT based applications have huge advantages and will help people and various organizations in makings of smart homes, smart cities, efficient use of electricity and energy, better management and healthcare, wearables, connected car, security, road safety, cost-efficient business operations, etc.*

*This all is "The Internet of Things" applications and this is the Future.*

*Keywords: Internet of Things, Supply Chain, Data Logger*

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**Internet of Things (IoT)** is powered by the combination of analytics, mobile computing and cloud services. Asset tracking is also influenced by IoT which is providing such gadgets to make better decisions, saving money and time. One of the biggest trends is asset tracking, which gives them the tools to make better decisions and save time and money. Newer asset tracking solutions replaced the traditional bar code scanner with radio frequency identification (RFID) which provides more vital and usable data when paired with other IoT technologies.

Warehouses are also not untouched by the capabilities of IoT where inventory monitoring, stock level distribution are taking help from new models.

Networks powered IoT technologies are useful in minimizing the human error when it comes to inbound and outbound packages as it provides several scales to scan different parameter like size, weight, density, etc. based on this collected data, accuracy can be ensured by shipping collaboration software with expected and actual received inventory.

**IOT KEY TO EFFICIENCY**

- *Operational efficiency:* Deficiencies that occurred at a real-time can be traced quickly or rectified. Companies are affected by slowdown or delay that cost them money can be identified.
- *Inventory management:* IoT Devices provides automation to the organizations for inventory updates that when to reorder or restocked. This eliminates the delay and provides the product as per the customer's expectation on time.
- *Customer service:* IoT devices are reducing the time amount from requests to respond. On-time data accessibility is required to match up with the customer's expectations also the accurate delivery date time notifications are demanded by the customer as to where their product during the transit.
- *Loss management:* IoT devices make use of sensors that can sense almost all possible loss events that can occur with the product during the transit and if any such event occurs with the product that can be traced that at what point of time, place and factor that has contributed to merchandise loss.
- *Visibility:* A much better understanding of the product that exactly what amount of time and place product is stayed, equipped Supply chain management professionals with the data they require to make better decisions. Earlier, companies would get only occasional updates and outdated reports and it would be too late to make any real changes or adjustments.

**EXAMPLES OF IOT TRANSFORMING SUPPLY CHAIN**

- *New Jersey Transport Authority (NJTA)* – Undoubtedly IoT provides tools for cost-cutting in the long run. The NJTA is working with IBM to deploy 3,000 sensors along the New Jersey [1]. Turnpike [2] – one of the busiest roadways in the U.S. The data this generates is used by the emergency services and traffic management operators so that they can get to an accident quicker, and reduce congestion buildup.
- *Amazon* – Amazon handles their orders uniquely regardless of their shapes or size with the help of robots and AI system; they use Wi-Fi-connected robots [3] to identify products by reading QR codes using built-in cameras. Workers of Amazon works in coordination with the robots and IoT devices. The priority of the product is identified by the AI systems, humans perform restocking and packaging while the rest of the work is performed by the robots.
- *Volvo* – For shipping the ordering components to vehicles across the globe Volvo utilizes the cloud services with IoT technology to enhance its logistics of the supply chain. The company established a relationship with Microsoft, which involved trialing its mixed-reality headset, HoloLens [4]. It is the company that believes that their headset can help in transforming car design with a better relationship with the customer.

**IOT AND BIG DATA**

The number of internet users and connected devices are increasing rapidly and influencing our daily life to incorporate with the Internet of Things (IoT) and Big Data. IoT devices share a huge amount of data as they are the Physical devices that are connected to the internet.

According to a study by Gartner [5], the revenue generated from IoT-enabled services and products will exceed \$300 billion by 2020.

For any organization, well-analyzed data is at most priority and IoT is generating a huge amount of data. To analyze that hugely generated data from IoT devices Big Data analysis and analytical tools are required. Big Data analytics tools help to generate and store the insight from the information received from various sensors of IoT devices.

Predictive analytics is possible with several machine learning algorithms that use the patterns and trends observed from the vast amount of data generated by IoT sensors. Predicting the problem before it happens, so that it can be fixed is possible with Big Data Analytics. The risk of damage and waste can be minimized with Big Data leads. Thus the IoT services with Big Data creates ample opportunities to enhance customer relationship.

**The following statistics from Gartner [6] shows how IoT and big data is revolutionizing our everyday lives:**

- By 2020 every person will create 1.7 MB of data every single second.
- There are 3.5 billion Google searches per day and 400 hours of new Youtube video added every minute.

- The number of IoT connected devices is forecast to reach up to 30 billion by 2020.
- IoT investment is expected to reach \$58.14 trillion in the next 15 years.

### **IOT & BIG DATA IN THE SUPPLY CHAIN**

According to a report from Transparency Market Research [7], the global supply chain and logistics market are set to exceed \$15 trillion by 2023.

Although there is rapid growth in the supply chain industry, still there are not that many field innovations happening and the companies still lacking efficiencies.

Based on a report by ZenCargo [8], supply chain inefficiencies cost businesses nearly USD 2 Billion in the UK alone.

The traditional outdated process in the supply chain is very complex involving controlling and monitoring product flow from material to final product delivery with a point to point communication that relies on e-mail and phone communication. While the controlling and monitoring of the product is very crucial. This can cause inefficiencies as the supply chain is slowed down by the large and complex network of point-to-point communications.

“IoT is on the rise towards restructuring the entire process by which supply chains operate.”

A smart network ecosystem of people, process and data through sensors and actuators, that is consistently collecting, measuring and distributing real data, is the power of the Internet of things. This real data gives its benefits to the supply chain providing visibility in every process within the supply chain.

### **WHY THE INTERNET OF THINGS MATTERS TO THE SUPPLY CHAIN?**

IoT devices are a major advantage in aspects of supply chain management:

- Visibility and tracking of real-time shipment and inventory
- Stakeholders can easily plan supply and demand as they know when they can expect to receive and process goods
- Early identification of issues with lost or delayed goods
- Keeping raw materials and processed goods in optimal conditions provides enhanced quality management.
- Assurance of goods location in rest or motion as per stakeholder.
- Better storage and distribution of products.

### **IOT ENABLED DATA LOGGERS IN SUPPLY CHAIN**

Technology is advancing at a rapid rate and companies still working with obsolete technologies are holding back. The same scenario is prevalent in supply chain industries. Traditionally, data loggers were having significant drawbacks although they were widely used in supply chains and covers basic cargo monitoring needs.

The old **traditional data logging technology** widely used in the supply chain with electronics devices (data loggers) used to log location-based environmental data was considered as state of the art innovative technology of the time but with the time that was affected with new trends and became obsolete. Traditional data loggers were replaced by IoT enabled solutions providing more vital real data with wider visibility.

### **IOT ENABLED DEVICES VS. TRADITIONAL DATA LOGGING TECHNOLOGY...**

#### **1) Intelligent vs Non-Intelligent Analytics**

The key component of IoT enabled data logging technology is the analytics, providing information on shipment, help in making decisions, future predictions and exposing risks. It can generate intelligent reports based on performance management with various quality checks in less time, such technology empowers the business with better decision making ability. On the counter side, the traditional data logging technology using few independent electronic devices is not that intelligent that it can generate such future prediction reports on its own. Such devices are simply capable of collecting and storing data, the older data logging devices are not bothered about the predictions on shipment and related risk management neither with the financial management.

#### **2) Instantaneous Data Exchange + Analytics vs Limited Data Accessibility**

The power of IoT enabled devices is in its sensing, analytics and communicating the real data with all of its related stakeholders instantaneously. The IoT enabled devices to make use of a cloud-based dashboard and

provides the information to all related parties in real-time. Whenever cloud dashboard updates, all parties get to know with the recent information, which makes easy communication between them. On the other hand, old data loggers are not equipped with such capability and communication technology of sending real-time data to all. Here data is stored in one device which along with the shipment. That data can be exchanged only when it is extracted from the device.

### **3) Automatic Data Transfer vs. Manual Setup**

The IoT enabled technology transfers the data on the go which enables the problem-free quality condition monitoring of the product. Without any delay, the product reaches the destination it will be delivered to the buyer. Here no other means of IT infrastructure is required for data transfer and analysis as all the process is completed by the means of automation over the cloud. Whereas data extraction and analysis are not like that much easy in traditional data logging technologies since here dedicated software with data wiring is required to be installed at the destination to extract and analyze the data, sometimes this cause problem in case of quality condition monitoring as the extra time needed for data extraction and analysis.

### **4) Real-Time Data Stream Vs. Data Availability Post Shipment**

Any disruption with the product can lead to affect customer satisfaction and business operation, IoT enabled devices provides all real-time updates related to the shipment and enables you to react against such disruptions. The traditional data logger technology is unable to act with real-time data as it provides the details only after the shipment reaches the destination. Traditional data loggers are not capable to reveal important conditional measures sometimes which are of utmost priority.

## **THE IOT TRANSPORT DATA LOGGER**

TDL or the Transport Data Logger gives transparency in the supply chain process. TDL is moved with the shipment and measures several parameters like temperature, shock, and tilt. Different measures on those parameters can be settled and if any of the parameter is breached then that will be traced in the supply chain. TDL also facilitates data visualization through mobile applications.

## **BENEFITS OF THE TRANSPORT DATA LOGGER**

- *Efficiency:* Easy to use and configure, easy integration without the pre-requisite of the logistic chain.
- *Condition Monitoring:* 360-degree approach of TDL with condition monitoring makes it more transparency in the supply chain. When any parameter threshold is exceeded, the TDL acquaints with verifiable proof of possible primary and secondary damage.
- *Simplicity:* IT is a simple, versatile, reliable, and cost-effective delivery monitoring device.
- *Transparency:* The TDL creates trust between parties and provides data for enhancing the logistics process. It offers proof of a fail-safe transport chain.

## **FUTURE OF SUPPLY CHAIN WITH IOT**

IoT today: an information flood that carries constant reaction to changing client needs and economic situations with late gauges of 28 billion IoT associated gadgets worldwide by 2021 [9] the main thing IoT will do is add to the blast of data driving organizations' information intricacy challenge. Simultaneously, IoT will challenge supply chains to open up to a new plan of action and operational potential outcomes. These are empowered by IoT information streaming once more from clients as an immediate contribution from organized sensors joined to conveyed items, just as from a huge number of outside sellers. A foundation of this vision is that prescient investigation will caution organizations to issues rising with their gadgets in client use, and afterward, important inventory network procedures can be marshaled to react to the client — potentially even before the client becomes mindful of the issue. Supply chains reacting to changing client needs progressively adequately change items into "items as-an administration" — another advanced plan of action.

IoT, tomorrow: wise, self-arranging supply chains It is a little reasonable jump from items as-a-support of shrewd, self-sorting out supply chains. As production network forms and their crude materials and segments become instrumented with IoT sensors, the sign they send about the condition of those procedures can be investigated by progressively proficient AI frameworks. Joining that information with data about the different clients for whom the store network's yield is predetermined, such frameworks could choose for themselves how to work and react progressively to evolving conditions.

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## ANTECEDENTS OF CUSTOMER SATISFACTION IN INDIAN TELECOM SECTOR

Krati Kulshrestha<sup>1</sup> and Dr. Sanjay Gupta<sup>2</sup><sup>1</sup>Research Scholar, SOS Management, Jiwaji University, Gwalior<sup>2</sup>Prof. & Head, Department of Management Studies, MLB Govt. College of Excellence, Gwalior**ABSTRACT**

The present research work aimed to determine the key factors influencing customer satisfaction in Indian telecom sector which is currently subjected to all time low and facing fierce competition. It is a proven fact that a satisfied customer will lead to loyal customer followed by repurchase intention, word of mouth and willingness to pay more for that particular brand. The study measured the impact of five variables i.e. Price fairness, Service quality, Network coverage, Signal strength and Sales promotion on customer satisfaction by analyzing the data of 200 respondents using telecom services of four major service providers i.e. Bharti Airtel Ltd., Vodafone Idea Ltd., Reliance Jio Infocom Ltd. and Bharat Sanchar Nigam Ltd. (BSNL). Primary data was collected through a standardized questionnaire and data was analyzed using Descriptive Statistics and regression analyses through PASW18.

The results indicated significant positive relationship between dependent variable (Customer satisfaction) and all independent variables (i.e. Price fairness, Service quality, Network coverage, Signal strength and Sales promotion) where Service quality proved to be the major influencer with  $\beta = .245$  towards customer satisfaction of a particular service provider followed by Price fairness ( $\beta=0.213$ ), Signal strength ( $\beta = .162$ ), Network Coverage ( $\beta = .085$ ) and sales promotion ( $\beta = .058$ ).

**Keywords:** Customer Satisfaction, Price fairness, Service quality, Network coverage, Signal strength, Sales promotion, Indian telecom service providers.

**INTRODUCTION**

The origin of Indian telecommunication dates back since 1851 when first experimental electric telegraph line was started between Kolkata and Diamond Harbour. Currently India is world's second largest telecommunication market in terms of subscribers, internet users and app download with a base of 1.20 billion subscribers as on September 2019 along with the average of 9.8 GB per month as world's highest data usage per smartphone. According to IBEF Foreign Direct Investment (FDI) cap in Indian telecom sector has been increased to 100% from 74% and sector has witnessed FDI inflow of US\$ 37.10 billion during April 2000 to September 2019. The government expenditure on telecom infrastructure and services grew six-fold to Rs 60,000 crore (US\$ 8.31 billion) during 2014- 2019.

Indian telecom sector has experienced a high pace of market liberalisation and growth since 1990s and now has become the world's most competitive and one of the fastest growing telecom markets. The sector has also contributed towards socio-economic development of the country by narrowing down the rural-urban digital divide to an extent and future also seems to be promising in terms of consumer demand. In order to increase the customer base and to retain the existing one it is must for every service provider companies to meet the customer expectations well in time, especially now when the industry is under stress of survival and customer retention.

This study aims to analyse the key variables influencing customer satisfaction in Indian telecom sector, so that the service provider companies can channelize the same for long term profitable association with the customers. According to Deng et al., (2009) Customer satisfaction is very significant in business environment as it determines the ability of a service provider to create high degree of contentment which is crucial for product differentiation and developing strong relationship with customers. It is also a proven fact that business is subjected to lose market share, customers and investors if it fails to satisfy customers as effectively and efficiently as its competitors does (Anderson, Fornell, and Mazvancheryl, 2004).

**LITERATURE REVIEW****Customer satisfaction**

In the words of Kim et al. (2004) customer satisfaction is customer's response to the state of his satisfaction and judgment of satisfaction level. Oliver (1997) defined customer satisfaction as customer response to the state of fulfilment, and customer judgment of the fulfilled state. Zeithamal & Bitner (1996) stated customers' own perceptions of service quality as the main factor contributing to customer satisfaction as it enhances customer loyalty, averts customer churn, drops customers' price sensitivity, reduces the costs of botched marketing and new customer creation, moderates operating costs due to increase in customer base, improves the efficacy of



advertising and enhances business standing (Fornell, 1992). Organizations must identify the determinants of customer satisfaction and dissatisfaction, in order to ensure customer satisfaction (Motley, 2003). Satisfaction of customers with company's products and services is considered as utmost important factor toward its competitiveness and accomplishment (Hennig-Thurau and Klee, 1997).

In the words of Wong, 2010; Mittal & Kamakura, 2001; Leelakulthanet & Hongcharu, 2011, in telecom industry, customer retention determines the success and survival of service providers which may be due to stern competition, high cost of attracting new customers and the likeness of services offered by telecom operators (Neslin, Gupta, Kamakura, Lu, & Mason, 2006; Kim & Jeong, 2004; Gerpott, Rams, & Schindler, 2001).

### ***Price Fairness***

Price fairness is determined as consumers' assessments of seller's price as reasonable, acceptable or justifiable (Xia et al., 2004; Kukar-Kinney, Xia and Monroe, 2007). Price fairness is a very important issue that leads toward customer satisfaction. Wong (2010) conducted a study with a sample size of 1,403 Canadian post-paid mobile customers over a period of 3.7-years where he reported that greater customer loyalty was observed in consumers with optimum rate plans than those with non-optimal ones.

According to some studies, the major churn (i.e. loss of customers) determinant was found to be the dissatisfaction of customers on pricing (Wong, 2009; Kim, Park, & Jeong, 2004; Keavency, 1995). The importance of price fairness, service quality in determining customer satisfaction was also testified by Hafeez and Hasnu (2010) who investigated customer satisfaction in Pakistan. Studies have revealed that customer's preference to accept a particular price has direct bearing on their contentment level and loyalty (Martin-Consuegra, Molina and Esteban, 2007).

### ***Service Quality***

Zeithaml et al. (2003) developed a conceptual model of service quality which stated that service quality impacts particular customer behaviours determining whether consumers will remain loyal or leave an organization. Balaji (2009) studied the antecedents and consequences of customer satisfaction with Indian mobile services, by surveying 199 post-paid mobile subscribers in major Indian cities and testified that perceived service quality is the main predictor of customer satisfaction, which results into trust, price bearance and customer loyalty. Omotayo and Abiodun (2011) also found that service quality has a positive impact on satisfaction and loyalty under their study of 148 Nigerian major telecom companies' subscribers. Gupta and Sharma (2009) conducted a study in India on telecom users where they stated that in order to retain customers and attract new customers; the service providers must provide adequate service quality without any hidden price.

Eshghi et al. (2008) considered 238 mobile phone users in four major cities of India to identify the impact of service-related factors on customer satisfaction, repurchase intention, and the recommendation of a service to others where they found competitiveness, relational quality, reliability, reputation, support features, and transmission quality as most significant predictors of customer satisfaction. Further, the positive relationship between service quality and customer satisfaction was supported by many studies, i.e. (Sureshchandar et al., 2003; Cronin, Brady, & Hult, 2000; Caruana, Money, & Berthon, 2000; Negi, 2009; Agyapong, 2011).

### ***Network Coverage***

The prominence of network quality along with price plays an important role in the choice of a mobile phone operator was highlighted by Rahman et al. (2011) who directed a study of 400 mobile telecom customers in major cities of Malaysia. Kim et al. (2004) enumerated that customer satisfaction in telecom industry is determined by factors like voice call quality, network coverage and the customer complaint process.

### ***Signal Strength***

In telecom sector customer satisfaction is largely based on signal strength as no calls or internet usage is possible without signal from a particular network. The bad signal strength can lead to call drops, voice distortions and dubious call connections (Kim et al. 2004).

### ***Sales Promotion***

There is intense competition between Indian telecom service provider companies thus sales promotion plays a significant role in retaining a market share among companies. Sales promotion is defined as some kind of offers that has the capability of increasing consumer demand or improves product quality. It has significant impact on consumer's brand choice, purchase time, and purchase quantity decision (Khan, 2012). Promotional activities of the company needs to be effective in order to draw customer attention over longer period of time and should be capable of creating repurchase intentions.

**OBJECTIVES**

- 1) To investigate the relationship between variables like price fairness, service quality, network coverage, signal strength, sales promotion with customer satisfaction in Indian Telecom sector.
- 2) To assist telecom companies in identifying the major determinants of customer satisfaction.
- 3) To test the conceptual model (Figure 1) using SPSS.

**RESEARCH METHODOLOGY**

*The study* – The study was causal in nature with survey being the mode of data collection.

*Sampling Unite and technique* – Sampling unit comprises of general public in age group of 18 years and above, using network services of four major Indian telecom companies i.e. Bharti Airtel Ltd., Vodafone Idea Ltd., Reliance Jio Infocom Ltd. and Bharat Sanchar Nigam Ltd. Sampling technique comprised of Convenience (Non-probability).

*Data was collected* from 200 respondents during July 2019 to December 2019.

*Tool used for data collection* – Closed ended structured questionnaire was used for collection of the responses. Questionnaire under the study was distributed into two parts, wherein first part was based on Demographical profile and second part based on dependent Variable (customer satisfaction) and Independent Variables (price fairness, service quality, network coverage, signal strength and sales promotion). All the items in the variables were supported with 5 point Likert scale ranging from 1 as Strongly Disagree to 5 as Strongly Agree. Further, respondents were ensured about the confidentiality of data shared in this regard which would be subjected academic research only.

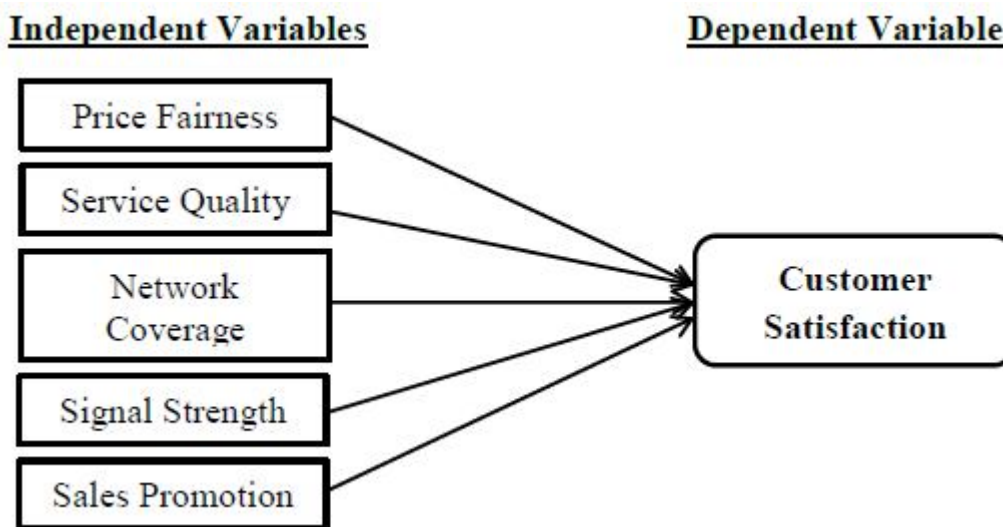
**Conceptual Model of the study**

Figure-1

**Hypothesis of the study**

- H1** – There is significant relationship between Price Fairness and Customer Satisfaction.
- H2** – There is significant relationship between Service Quality and Customer Satisfaction.
- H3** – There is significant relationship between Network Coverage and Customer Satisfaction.
- H4** – There is significant relationship between Signal Strength and Customer Satisfaction.
- H5** – There is significant relationship between Sales Promotion and Customer Satisfaction.

*Tools used for data analysis* – Reliability of the questionnaire were checked through Croanbach"s alpha and to test the model significance and hypothesis ANOVA and Multiple Regression analysis was used.

**DATA ANALYSIS AND RESULTS**

Demographic analysis of data as shown in Table 1 Reflect that out of the total sample size of 200 respondents 58.5% were male, 36.5% were female and 5% comprised of transgender. The respondents between the age group of 18 to 30 years were highest i.e.33.5% and that of 51 years and above were the lowest i.e. 17%. Most of the respondents i.e. 68.5% had prepaid connections in comparison to 31.5% with postpaid connections.

Amongst the telecom companies taken for the study Reliance Jio had highest number of subscribers being 28% followed by Airtel 27%, Vodafoneidea 24.5% and BSNL 20.5%. Results further indicated that 32.5% of respondents were using their connections since less than one year, 39% are having network experience of 1 to 5 years where as 28.5% are connected with their network for more than five years.

**Table-1: Demographic profile**

Measures	Items	Frequency	Percentage
Gender	Male	117	58.5%
	Female	73	36.5%
	Transgender	10	5%
Age	18-30 yrs	67	33.5%
	31-40 yrs	56	28%
	41-50 yrs	43	21.5%
	51yrs & above	34	17%
Connection Type	Prepaid	137	68.5%
	Postpaid	63	31.5%
Network Subscribed	Airtel	54	27%
	VodaIdea	49	24.5%
	Reliance Jio	56	28%
	BSNL	41	20.5%
Duration of Network Experience	≤ 1 year	65	32.5%
	1-5 years	78	39%
	≥5 years	57	28.5%

**Descriptive Statistics**

In order to determine the main feature of collected data descriptive statistics was used. It offers summary statistics in terms of mean, standard deviation and the number of respondents (N) which is 200 in current study as measures of central tendency. As shown in Table 2 the mean values of all the six variables (PF, SQ, NC, SS, SP & CS) are greater than 3 which shows significant positive trend whereas standard deviation which determine the spread of distribution fall between 0.92 to 1.19.

**Table-2: Descriptive Statistics of main Variables (n = 200)**

Variables	Mean	Standard Deviation	Number of respondents
Price Fairness (PF)	3.73	0.89	200
Service Quality (SQ)	3.32	1.09	
Network Coverage (NC)	3.54	1.12	
Signal Strength (SS)	3.66	0.97	
Sales Promotion (SP)	3.27	1.19	
Customer Satisfaction (CS)	3.43	1.16	

**Reliability**

The reliability of 24 items in the questionnaire was examined using Cronbach’s Alpha (CAs) as depicted in Table 3. CAs verify reliability by testing the degree to which scaled items represent the phenomenon they are intended to measure (Cronbach, 1951). The questionnaire proved to be reliable as all the alpha values were higher that 0.60 (Das, 2012). Alpha coefficient for each five independent variables and one dependent variable i.e. customer satisfaction was tested by the researcher.

**Table-3: Reliability Coefficients**

Variables	Number of Items	Cronbach’s Alpha
Price Fairness (PF)	5	.829
Service Quality (SQ)	4	.779
Network Coverage (NC)	3	.812
Signal Strength (SS)	3	.873
Sales Promotion (SP)	4	.752
Customer Satisfaction (CS)	5	.747

**Regression Analysis**

Multiple Regression analysis was conducted to test the hypothesis and draw the results there under. As reflected from Table. 4, Adjusted R-square is displaying that the dependent variable (Customer satisfaction) is influenced 75.6% by independent variables (Price fairness, Service quality, Network Coverage, Signal strength & sales promotion). Since R Square is close to one so it indicates that these variables can impact the customer satisfaction in telecom industry.

**Table-4: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.867 <sup>a</sup>	0.756	0.723	.54621
a. Predictors: (Constant), PRICE FAIRNESS, SERVICE QUALITY, NETWORK COVERAGE, SIGNAL STRENGTH AND SALES PROMOTION				

The significant value as reflected in Table 5 of ANOVA is less than 0.05, which indicates that model is statistically significant. This further clear that all the independent variables, that is, price fairness, service quality, network coverage, signal strength and sales promotion are connected to the dependent variable, which is, customer satisfaction.

**Table-5: ANOVAa Analysis**

	Model	Sum of squares	Df	Mean Square	F	Sig.
1	Regression	9.423	5	1.886	4.384	.000 <sup>b</sup>
	Residual	48.652	142	.342		
	Total	58.075	147			
a. Dependent Variable: CUSTOMER SATISFACTION						
b. Predictors: (Constant), PRICE FAIRNESS, SERVICE QUALITY, NETWORK COVERAGE, SIGNAL STRENGTH AND SALES PROMOTION						

**Table-6: Regression Coefficientsa**

	Model	Unstandardized coefficient		Standardize d coefficient	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.319	.422		5.139	.000
	Price Fairness (PF)	.148	.050	.213	1.871	.000
	Service Quality (SQ)	.155	.084	.245	3.010	.000
	Network Coverage (NC)	.017	.066	.085	0.186	.000
	Signal Strength (SS)	.067	.053	.162	2.376	.000
	Sales Promotion (SP)	.035	.073	.058	1.235	.000
a. Dependent Variable: CUSTOMER SATISFACTION						

The above Table 6 reflect that as significance value is  $0.000 < 0.05$ , our hypothesis is accepted which proves that there is a significant relationship between dependent variables i.e. Customer satisfaction and independent variables i.e. Price Fairness, Service quality, network coverage, Signal strength and sales promotion.

Amid all variables, Service quality is the major variable with standardized coefficient  $\beta = .245$  that can satisfy the customer toward their particular service provider. While Price fairness is the second significant variable with a standardize coefficient of  $\beta=0.213$ . Followed by Signal strength ( $\beta = .162$ ), Network Coverage ( $\beta = .085$ ) and sales promotion ( $\beta = .058$ ) which are comparatively less effected by Customer Satisfaction.

**CONCLUSION**

It is an evident fact that Indian telecom sector is one of the largest and fastest growing market of telecom and internet user in the world, but at the same time most of the Indian telecom service provider companies are

facing challenges of the survival as the sector is subjected to one of the lowest tariff rates in the world and being heavily taxed.

In order to ensure survival by service provider companies it is very important to keep their customer satisfied as it will help company for their long term association with them, keep up word of mouth and improve the brand image. The study results revealed that Indian telecom user look most for service quality at affordable tariff rates followed by price fairness, signal strength, network coverage and sales promotion. In India telecom services are used by all walks of life due to one of the lowest tariff pricing in the world thus the subscriber base is increasing day by day being rural and urban population. Thus it is vital for all the service provider companies to keep their customer satisfied and value each variable influencing their satisfaction in order to help them retain their market share in Indian telecom sector.

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**RECTIFICATION OR RECESSION PHASE OF THE ECONOMY- LET US MULL OVER IT**

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**Nidhi Dwivedi**

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**ABSTRACT**

*Today, the world economy is in the clasp of economic crisis. So, is ours. This is the consequence of many global as well as domestic slip-ups. The government has kicked off a series of initiatives to cope up with this situation. Therefore, an endeavour has been made to figure out the remedial measures adopted by the government to lessen the challenging impact of the crisis. Finally, this paper has been summed up by discussing at length if the present situation can be termed as rectification phase (which is the need of the hour also) rather than the recession one of the economy.*

*Keywords: Economic crisis, Auto Sector, MSME sector, Real estate sector, Rural sector*

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**1. INTRODUCTION**

Economic crisis has gripped almost the whole world. Economies of not only the countries like Germany and China are bearing its brunt, but, the safest country like USA is also not spared by it. Today, no nation, even China is able to achieve double digit growth rate, who, maintained it in the golden age of 1950-2001. Actually, shrink in working population, debt burden and low productivity are the biggest challenges globally in realizing it. In India, economic slowdown had forced RBI to reduce GDP growth forecast to 6.1% for the financial year 2019-20. On the other hand, South Asia Economic Focus report of the world bank had anticipated it at 6 per cent by citing below normal local demand but also hoped for the growth be revived gradually to 6.9 per cent in 2020-21 and to 7.2 per cent in the following year. It had patted the government for initiating the accurate measures for economic restoration.

The present economic crisis is cyclical in nature, however, Mr Manmohan Singh had termed it as cyclical as well as structural which he predicted is going to be “prolonged” for it being of a severe nature due to shrunken demand. Though, solution to both is a must to attain high growth rate. Generally, it happens once in a decade. In the last decade, financial crisis had arisen from a lack of liquidity in the United States in 2007. It was termed as even worse than that of 1930s Great Depression which, had declined economic activities very significantly. It had crashed major financial institutions, the stock market worldwide, the real estate market, the business and ultimately the job market.

At that time, the government of India had injected three incentive packages of Rs 1.84 lakh crore in 2008- 09 for economic revival. This stimulus package so provided, instilled confidence in the economy and people parted with their saving for investment. This step relieved the Indian economy from the impact of the global financial crisis and it grew by 6.8 percent in 2008-09. Saving is the biggest virtue of Indian economy which had shielded us during downtrend phase 2008 too. In the present scenario although our economy has seen decrease in the growth rate in the couple of last quarters, but, saving has increased. However, it is not as high as was during 2008 crisis. It is so because, along with saving our liabilities also have risen which make it appear as if saving is stable. This is a cause of concern for the economy. Had the economy growing by 8- 9%, then saving would have been more than what it is now-a-days. Therefore, investment is required not only to increase the growth rate but, also the saving.

Before inferring anything about the present scenario, let us take a close look at the corrective actions adopted in the economy.

**2. THE CORRECTIVE ACTIONS ADOPTED IN THE ECONOMY****2.1 Investment in infrastructure**

Measures like disbursement of recapitalization fund to banks by the government, transfer of 1.76 lakh crores from RBI to the government, decrease in repo rate, linking of repo rates to the banks so that people can avail the benefit of decreased rate and easy loan availability have been taken by the government with the hope that credit flow increase in the economy will help in its revival. Except this, many other measures like injection of more money in the form of concrete investment have been executed to revert the present trend. These steps will help in increasing income, demand and saving altogether. And generally once recession has set in, it takes 8-12 months to put the economy on the track.

Finance Minister already has set up a six-member team for making a survey to earmark the areas of utmost importance for announcement made by her during the budget speech regarding 100 lakh crores infrastructure investment in the next 5 years. Taxes are the biggest source of government’s income. But the dismal collection

from it gives a thoughtful feeling about the persons whose tax share can make the biggest source of revenue for government and the get away with it by exploring some or the other alternate ways. The salaried one however, file their taxes religiously and they feel motivated in paying off their taxes happily with reduced tax rates as it acts as a social security tranquilizer to them. But, their collection hardly makes much difference. This attitude of people diminishes the government's tax base. Government can attract this amount by setting its own example of depicting transparency in the area of political funding.

## 2.2 Initiatives taken in the rural sector

The first quarterly economic report 2019 was followed by many suggestions and recommendations from various economists and the concerned dignitaries like 'Timely payment of 'किसान सम्मान निधि' to the farmers', Easy agriculture loan and Investment in long term projects in rural areas etc.

The government at the centre did take a note of it and initiated a series of innovative means for rural area progress that will help in uplifting the socio-economic status & the welfare of the farmers in agriculture, and recover the agriculture from downtrend. These include –

To help this sector which contribute 45% to GDP & generates nearly 80% job opportunities and the farmers in general, the central government earlier had announced the Rs 75,000 crore PM Kisan Samman Nidhi Yojana (PM-KISAN) in the interim Budget 2019-20, under which Rs 6,000 per year will be given in three installments to 12 crore small and marginal farmers holding cultivable land up to two hectares. The government can authenticate the direct benefit transfer to the entitled farming community as this transfer has been done to the accounts of farmers which are linked with their Aadhaar.

Prime Minister Narendra Modi with an outlay of Rs 10,774 crore for the next three years, launched a pension scheme named as 'Pradhan Mantri Kisan Man-dhan Yojana' on September 12 for farmers who are in the category of small and marginal slabs with a cultivable land up to 2 hectares as per land records of the concerned State/UT and fall between the age group of '18 to 40' years. Under the scheme, the eligible farmers need to make a monthly contribution of between Rs 55 and Rs 200 per month till they attain the age of 60 and the government would pay a matching amount for the pension scheme. They will start getting Rs 3,000 per month pension after reaching 60. The enrolment charges of Rs 30 for farmers to this scheme are also to be borne by the government at Centre.

During 'The 6th World Congress on Rural and Agri Finance' address, FM Sitharaman had revealed about putting rural and farmer development concerns on a larger map by planning to form about 10,000 farmer produce organizations (FPOs) and motivating them to trade online the agricultural commodities through online national trading platform National Agriculture Market Centre (eNAM). eNAM platform will provide better opportunities to farmers than the marketing board of Agricultural Produce Market Committee (APMC) which is followed by state governments for agriculture product marketing to safeguard farmer's interest. Therefore, FM has requested states to switch over to eNAM by dismantling the APMCs. But, I don't foresee any reluctance the states should show in replacing the same if some glitches like uniformity in handling legal /other aspects dealing with it in all the states are addressed and attached to it. Another step taken by the government to uplift the rural economy is by allowing farming community-related women self- help groups (SHGs) to avail a loan up to Rs 1 lakh under the MUDRA Scheme.

In order to help the farmers in identifying and maintaining the soil health related to nutrition and moisture levels of the plot they are holding, the government is coming out with a soil health card also. Now, India's expenditure to import about 15 MT of edible oil to fulfill its annual demand of 25 MT is over Rs 70,000 crore. The government is pondering to levy 2-10 percent cess on import of edible oil to generate funds for investing in mission of making India self-sufficient in edible oil production.

Moreover, one another step which the government has undertaken is that it has liberalized the existing 2002 guidelines of Rs 2,000-crore investment in the petroleum sector for grant of transport fuel-marketing license. It has replaced the condition of minimum investment by companies with the introduction of minimum net worth of Rs 250 crore only. Government has also taken the initiative of allowing non-oil companies to make at least 5 per cent of their investment in setting up of the petrol pumps in the notified remote areas with time bar of five years. Besides, within three years of operationalization of outlets selling conventional fuel, they also need to put in place marketing facilities of at least one new-generation alternative fuel, such as CNG, LNG, and biofuel at their retail outlets. This step will benefit the customers with improved services due to the presence of intense competition amongst more number of suppliers of the product and the development of rural sector.



Let us hope that the government's investment exemption to long term projects persuades FDI in rural area, thereby, relieves overburdening the urban area by creating job opportunities locally and uplifting the demand level in the coming quarters.

### **2.3 Steps taken to Encourage the real estate sector**

The Q1 and Q2 report of FY20 has depicted the gloomy picture of real estate sector. Multiple factors are responsible for this situation. GST and Demonetisation are few of them. These steps did keep a check on the black money, but, didn't stop it fully. Now, people are scared of circulating it. This has weakened the economy temporarily. The real estate sector also got adversely affected by the problem in NBFC. Problem of currency in the realty sector started with the default of IL&FC in September 2018. Difficulty in procuring loan from banking and NBFC led to closing down many projects of builders, developers and has also discouraged the home buyers.

The announcement of reduction in corporate tax rate to 15% earlier by finance minister gave some hope of more FDI to the crippling real estate sector of the economy. This step will help in expediting the economic revival process and the real estate sector which is capable of providing plenty of job opportunities to the masses. Now, the government has made an honest endeavour of its' revival by extending financing facility as well to complete the stalled real estate projects across the country by approving setting up a special fund named Alternative Investment Fund (AIF) which will provide money in escrow accounts that can be used only for completion of the identified projects. The total fund size is estimated at over Rs 25,000 crore with the Centre pumping Rs 10,000 crore in it. The State Bank of India and LIC will be injecting the balance amount of Rs 15,000 crore into the fund in due course. In due course of time, the fund can exceed the limit of Rs 25,000 crore with joining into it the keen partners of sovereign wealth funds and pension funds. This move of the government is expected to act as a catalyst for housing sector which can help in extracting large amount of funds stuck in these projects.

One doesn't know for sure the exact time taken by realty sector to recover, but, it is expected that this government spending will help in easing liquidity conditions and thereby lend a helping hand in improving economic activities in real estate dependent ancillary industries like paint, cement, tiles, steel & the growth rate in the following quarters to come in the economy. Also, the situation of construction material's old stock getting plummeted with escalation in fresh demand for it in launching the new projects will put its foot forward to reverse the present condition of the economy.

### **2.4 Encouragement to exports of MSME sector**

Growth in labor-intensive sectors i.e. Micro, Small & Medium Enterprises (MSME) sector is very important which can assist in bridging a widening gap of fiscal deficit by its earnings from exports. This sector is competent of mass jobs generation, therefore, it can give thrust to the sluggish labor market also. Consumer Packaged Goods (CPG) of MSME like packaged foods, beverages, toiletries, over-the-counter drugs, other consumables, textile and electronics help in realizing inventory as they are relatively low priced products which can be sold quickly. Today, not only public sector banks are facing liquidity crunch but, its danger is looming over to NBFCs also. NBFC crisis which resulted from NPA because of borrower's default in loan payment is creating a problem in loan disbursement. However, fresh defaulter case of Punjab and Maharashtra Bank (PMB) has thickened the economic challenge still further. Economic challenge is getting triggered furthest with difficulty in acquiring loan internationally due to adoption of harsh stand for global financing. Entrepreneurs are also showing distant interest in making investment by procuring loans. Insolvency and bankruptcy is an innovative reform but, in the present scenario it can't help India's large MSME sector. Increase in demand of auto sector, textile, Fast-Moving Consumer Goods (FMCG)/ CPG can be captured by providing easy loans. Infusion of liquidity in MSME will help in arresting de-growth of this sector as well as support capital formation in the economy. Few more steps like expediting input tax credit refund process of MSME and lessening its present time of three months will help in running the business smoothly and thereby escalating exports of MSME.

### **2.5 Auto Sector Status**

The economic slowdown has not spared even auto sector which is at its inflexion point. However, finance minister said that slowdown in auto sector can be attributable to many factors including transition to Bharat Stage VI emission norms (BS VI), higher registration fees and millennials not wanting to commit to EMIs to buy a vehicle and preferring cab & metro services. Today, people prefer to order food rather than going to restaurants for meals. Here, she is trying to convey the message that it is a transitional phase and economy is trying to adopt itself to the e-platform mode. If we leave apart these things and concentrate more on to some extra reasons, then things like less job generation, high fuel prices, bad transport infrastructure and shortage of currency in the market are the issues which are responsible for demand decrease. Governments have to adopt

even/odd formula to keep less number of vehicles on the road to resolve pollution issue. People prefer public transport for this reason and therefore don't want to block money in the first-hand vehicle purchase. Troubled auto sector has plagued ancillary industries also.

Rolling back of foreign investors also can be added to the list of reasons of auto sector slump. Imposition of surcharge on FPI in India on July 5 in the budget announcement can also be included in the list of causes till first quarter. This had resulted in equity withdrawal of more than rupees 30,000 crores by foreign investors. Though government has taken it back now. But less foreign investment is expected in India as there are bleak chances of four major central banks - The Federal Reserve System, European Central Bank (ECB), Bank of England and Bank of Japan to increase liquidity. Looking from global point of view, factors like - protests in Hong-Kong against the extradition law, US - China trade war, uncertainty prevails in UK for BREXIT makes investment in Asian markets risky.

One more reason which seems justified here is that as crisis in oil producing countries is making fuel prices exorbitant, therefore, millennials might be eyeing on to the cost efficient electric cars than a conventional petrol or diesel cars. Other benefits of such cars are that they are environment friendly, enjoy tax grants and are exempted from certain charges and fees. Consequently, this might be transitory phase as well towards pure electric motoring which is getting depicted in the form of lull in auto purchase activity. People might be taking wait and watch viewpoint before finalizing the decision of an electric car purchase wisely.

Let us hope for the consumption to pick up with attractive announcements of finance minister.

I don't have much understanding about the policy matters, however, I believe that government can accomplish the development tasks only when it has enough liquidity with it. When it notices that some sections of population are embracing money and are not parting with it easily, government has to adopt some harsh stand. I believe the present punitive stand on motor vehicle act is the result of same and the government wants to use it as a double edged sword i.e.: -

- i) To scare people that much that by fear of law they start obeying the road safety rules in which their welfare is hidden.
- ii) Government gets some success in extracting money from people which they are holding.

Although, money so extracted will help in continuing with the development tasks. Modernization of armed forces to safeguard the nation from any type of external threats is yet another important task which is going on the fast track. Still, I must say here that in this bulls' fight, undoubtedly though, it is the common man who is suffering the most but, in return, we certainly do will have the blessed effects of all these bitter pills.

### **3. DISCUSSION**

Slowdown process is prevalent globally and skipping this word in a three-hour long budget speech might be intentional as this situation is not created by our FM but, we also are part and parcel of it and facing the consequences of global recession. The actions our FM is going to take to reverse this situation were needed to be addressed and she was very clearly vocal with all those. Relaxing on taxes was one step which makes it a visionary budget. Stimulus in income created by such move in the hands of masses will help in increase in production activity via consumption. Along with this, any type of construction activity (like- infrastructure of rail/road transport, construction of Ram Mandir) is also going to increase consumption through generating mass employment. This step will help in heading towards revival.

The government is making an honest endeavor to bring the money deposited in Swiss bank back and if it succeeds in it, we can hope for the prime minister's promise and dream of a \$5 trillion economy becoming reality by 2024. Recent action of the cabinet committee on economic affairs (CCEA) related to clearing the way to privatize five PSUs is the biggest ever asset-sale exercises till now, which is hoping to generate ₹ 1.05 trillion to the government. This disinvestment move has been done to enhance professionalism in these companies so that they can contribute efficiently to fulfill the PM's dream of economy becoming a \$5 trillion one.

A strong banking system is necessitated for jerk-free functioning of the economy. Merger of public sector banks definitely will strengthen the banking system. But, banks can't contribute fully in the initial transitory phase of merger to the revival process as banks will be occupied handling their own challenges in their re- structuring. Therefore, government's injection of investment only can wane through the present economic crisis in this initial transitory phase. But, in future, this robust banking system can be trusted for absorbing any type economic shocks.

Today, e-platform of Digital India provides plethora of high quality products at affordable price to the consumers. Consumers are ready to shell out money on high quality product. Therefore, in this cut throat competition world, supplier can extract money from consumers only by not compromising with the quality of the product. There are remote chances of high quality product ditching the competition. If retailers expect wonders of enhanced income will happen to them with old business models, they are living in the fool's paradise. For that to happen, retailers have to spend money on surveys/research to study the mindset of the consumers and should make appropriate changes in their business strategy. They should think of extending their reach to the consumers with the feeling of 'if the mountain won't come to Muhammad, Muhammad must go to the mountain'. During this gloomy phase of economy, if business community also co-operate by carrying out manufacturing activities until their shut down/break-even point has reached, then along with the government's booster dose of investment, the economy will be able to arrest downfall phase early. This in return will give ample opportunities to the businesses to flourish and earn super normal profit. In my opinion, we, currently are passing through the phase of learning to make an omelet by breaking a few eggs.

There is a lot of job generation scope in tourism industry in India. Therefore, this area entails political attention for investment. There is no doubt that Prime Minister's Swachh Bharat Abhiyan has improved the cleanliness of the places, but, to attract more national & international tourists at old and new tourist places in India, more facilities, improved infrastructure and tourist's friendly environment will have to be provided at these places. Government however has achieved a major breakthrough in countering terrorism recently which not only provides a great threat in enabling tourist's friendly environment but, also tends to impact negatively to the growth rate by diverting political and financial attention towards it.

Low population is making the situation challenging for nations round the globe and the number of nations with this adversity have risen from 2 to 46. It forces us to relook and rework on our definition of economic growth. Recent estimates have shown that by 2040, China's working population (between the age group of 15-64) will remain 90 crores and that of Japan as only 6 crores. Therefore, the challenge of attaining high growth rate will be a distant reality in these countries with less working hands. Our country with a problem of educated unemployment and high population can reap the benefit of this opportunity by starting a negotiation with these countries for sending this segment of our youths on work visas in future.

A strong legal system is the first and foremost thing India requires to get it counted in the developed nations category. Modi government which has come with huge majority in the second tenure will leave no stone unturned in enforcing and implementing a strong legal system. In this context only, our home minister Mr Amit Shah had spoken that now is the time when better policing does not require third degree torture of the criminal but, authenticating a crime on the basis of forensic report. Along with putting check on the crimes, these type of reforms in the judicial system will open job avenues in academics also by incorporating this area in the curriculum of higher studies.

The macroeconomic performance is measured by considering the three basic components of the economy which are output, unemployment and inflation. The government uses macroeconomic tools which include taxes, government spending and borrowing, exchange rate determinants, monetary and credit rules to achieve the macroeconomic objectives of a high, but sustainable rate of economic growth, full employment, price stability, income equality and balance of payment equilibrium. To evaluate these objectives, the government keeps a vigil on real GDP, M2 (Money Supply), Current Employment Statistics (CES) for labor employment, Consumer Price Index (CPI) for inflation, Producer Price Index (PPI) for industrial production, Housing Stats for "New Residential Construction" and the balance of payments for its equilibrium. If macroeconomic indicators are doing well in the economy, then each sector tends to show good result as they have to make the most of their invested money. Moreover, development can't be commented by looking at only GDP parameter. Currently, macroeconomic indicators are demonstrating gloomy picture of the economy owing to tough and stern stand on reforms like (Article 370, Triple talaq, Anti-terror law, Merger of banks, POCSO amendment, Motor vehicle act, Ram Mandir, labour reforms, National Register of Citizens (NRC) and now Citizenship Amendment Bill(CAB) taken by the present Modi government in his second tenure. Assuming that in the initial couple of years after coming back to power, one can opt for the risk of taking stern actions & tough reforms and the present economic slowdown is the result of that, then, we need not to worry about slow pace as the next phase of the economy will be of revival one. And, Modi government has already started taking significant revival initiatives to give strength to the wilted economy.

It is the time of change. The change, when we are talking about purifying our air by steel structured tree known as bio-urban rather than plants. Mexico startup company has innovated one-ton steel structured tree which uses algae in this structure. The company claims that it purifies air equal to more than 300 trees of 1- hectare area

and can be installed to purify air in the area covering a population of 3,000 people. After looking at all this, people opine at saying that it appears in the first instance that fire incidents of Amazon in Brazil which produces 20% of oxygen and absorbs about 5% of carbon dioxide are all man made to flourish the above mentioned start up structure.

When technology is advancing at that pace, how can we keep sticking to old measures to evaluate the economy. Therefore, now is the time to accept the reality of harsh times.

Technology is advancing at a very fast pace. Artificial intelligence and machine learning are the two areas on which our future will survive. The automation technology helps in creating jobs rapidly, but, once the same technology gets obsolete, very swiftly it vanishes them also. If one doesn't keep oneself updated with the new technology, then it is difficult to retain the job. It can attack and even fail any political system - Democracy, Socialism or capitalism. Therefore, emotional strength and flexible mindset which is ready to struggle & can adapt itself to varying environment are two such things which will be needed the most in the time to come.

We should keep learning from the crisis of outside world also. Our government is proving it by constantly working upon updating the outdated laws. Present critical situation of Venezuela teaches us a lot. During the time period of 1940s to 1970, its share of earnings from oil export in its' economy was excessively high to the extent that a national slogan 'sowing the oil' was based on it. But, over the past few years, a formerly prosperous and well-to-do known economy got disintegrated and collapsed by the hyper populist policies, corruption and mismanagement of the economy by the government.

All said and done, we can't sit idle at this juncture and keep cherishing the corruption blossoming in front of us just for the apprehension of implementing monetary or any other reform. Already, the termite of corruption has damaged the roots of the economy to the extent of hollowing it. Now the time has come to have faith in the belief that hope is life and proceed with the feeling that bitter pills ultimately will have blessed effects.

#### **ACKNOWLEDGEMENT**

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**IMPACT OF SELECTED FACTORS ON ADOPTION OF E -BANKING**

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**ABSTRACT**

*E-banking is automated delivery of new & traditional banking products & services directly to customer through electronic, interactive communication channels. E-banking enables the customers to perform the basic banking transaction by sitting at their office or at homes through PC or Laptop .They can access the banks website for the transaction & other enquiry related to accounts. This study proposes a conceptual framework to investigate the effects of perceived usefulness, perceived ease of use, risk, need for interaction and prior experience of computer and technology on customer adaptation mediated through customer attitude in the context of e-banking. The theory of reasoned action –TRA (Ajzen and Fishbein 1980,) and the technology acceptance model -TAM (Davis 1989) provide the theoretical foundation for the development of the research model of this work. The multiple regression analysis conducted on the five factors indicate that PU, PEU, R, CP was found to be the most influential factors explaining the attitude towards e-banking. Another factor Need for Interaction (NI) was not found statistically significant variable for model and not suitable for it. It means an attitude towards e-banking is not influenced by direct interaction with bank employees.*

*Keywords: Perceived Usefulness, Perceived Ease of Use, Risk, Need for Interaction, Prior Experience, Technology Acceptance Model*

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**INTRODUCTION**

E-banking is automated delivery of new & traditional banking products & services directly to customer through electronic, interactive communication channels. E-banking enables the customers to perform the basic banking transaction by sitting at their office or at homes through PC or Laptop .They can access the banks website for the transaction & other enquiry related to accounts.

**The main types of virtual E-banking services are:**

- o Automated teller machines(ATM)
- o Shared ATM networks
- o Electronic fund transfer at point of sale(EFTPS)
- o Plastic Money
- o Stored Valued Cards
- o Phone Banking
- o Home Banking
- o Internet & Intranet Banking

**Component of E- Banking****E-banking systems can vary significantly in their configuration depending on a number of factors:-**

- o Strategic objectives for E-banking
- o Scope, scale & complexity of equipment systems & activities.
- o Technology expertise
- o Security & internal control requirements

**Financial institutes are free to choose internal or external support for their e-banking system. Following are the examples-**

- o From another financial institution
- o Internet service provider internet banking software vendor or processor
- o Core banking vendor or processor
- o Managed security service providers
- o Bill payment providers

- o Credit bureau
- o Credit security company

**The following list includes many of the potential components & processes seen in a typical institution followed e-banking system.**

- o Website design and hosting
- o Fire well configuration & management
- o Intrusion(interruption) detection system (IDS)
- o Network administration
- o Security management
- o Internet baking server
- o E- commerce applications
- o Internal network servers
- o Core processing system
- o Programming support
- o Automated decision support systems

These components work together to deliver E- banking services. Each component represents a control point to consider.

#### **Why E-Banking?**

**Current scenario is very fast and techno savvy .Every one want fast working so E-banking full fill the need of every individual**

- o Round the clock banking
- o Convenient banking
- o Low cost banking (services & infrastructure)
- o Profitable banking
- o Quality banking
- o Speed Banking
- o Service banking

All above components & factors are reason for satisfaction of the users of E-banking product and services.

#### **LITERATURE REVIEW**

Rogers (1962) proposed a model of the diffusion of innovations that included five product or service characteristics postulated to influence consumer acceptance of new products and services: relative advantage, compatibility, simplicity/complexity, observability, and trialability. Several researchers have incorporated pieces of Rogers' model in empirical work that examined technological innovations (Rogers, 1962; Raju,1980; Shimp and Beardon, 1982; Price and Ridgeway, 1983; Childers, 1986; Prendergast, 1993; Busch, 1995; Dabholkar, 1996; Lockett and Littler, 1997; Daniel,1999; Howcroft et al., 2002; Lee et al., 2003). Trial ability refers to the ability of consumers to experiment with a new innovation and evaluate its benefits. The extent to which various financial institutions offer "introductory" e-banking to their customers impacts the trial ability and accessibility of the innovation.

Empirical studies on the acceptance of technologies have found consistently positive relationships between usefulness and to a lesser extent, ease of use, and the adoption of a variety of specific technologies, ranging from computer software to e-mail (see, for example, Davis, 1989; Karahanna et al., 1999; Chau and Hu, 2001).Relative advantage is the degree to which consumers perceive a new product or service as different from and better than its substitutes (Rogers, 1962). In the case of e-b anking, savings of time, money and convenience have been cited as relative advantages. At the same time, financial management conducted online raises concerns of privacy, a relative disadvantage for some (Abbate, 1999; Snel, 2000; Karjaluoto et al.,2002). Consumers who must supply myriad personal information before being permitted to use the innovation may be

inhibited from adopting a given e-banking service. Observability is the extent to which an innovation is visible and communicable to consumers. For example, seeing ATMs on the street corners and in grocery stores may make this technology more observable than PC banking conducted inside the home. Simplicity/complexity is the extent to which consumers perceive a new innovation as easy to understand or use. For consumers without previous computer experience, or for those who believe that e-banking is difficult to use, adoption of these innovations may be thwarted. Compatibility is the extent to which a new product or service is consistent and compatible with consumers' needs, beliefs, values, experiences, and habits. In the case of e-banking, we must consider the degree to which a given technology fits in with the banking behavior of a consumer, and the way in which they have historically managed their finances. Technological service innovations differ from other commodities insofar as their adoption may require behavior different from consumers' typical routines (Gatignon and Robertson, 1985). This includes "bricks and mortar" issues such as not having a branch bank to visit, as well as "paper" issues including receiving statements electronically and not in the mail. A further refinement of Rogers' original model added the dimensions of perceived risk as well as product involvement (that is, how involved consumers are in related IJBM22, 4240 product categories; Lockett and Littler, 1997). This study found that risk-averse households were less likely to adopt direct banking and households that used other technologies (ATMs and buying products over the telephone) were more likely to adopt direct banking. The researchers conclude that "perceived innovation attributes appear to be better predictors of adoption behavior than personal characteristics" (Lockett and Littler, 1997, p. 807).

The Technology Acceptance Model (TAM), proposed by Davis (1989), incorporated the characteristics of perceived ease of use and perceived usefulness into a model of technology acceptance. Empirical work related to diffusion of technological innovations has expanded the use of the TAM model to include individual differences (Gattiker, 1992; Gefen and Straub, 1997; Taylor and Todd, 1995; Mick and Fournier, 1998; Jayawardhena and Foley, 2000; Karjaluo et al., 2002), and attitudes as defined by the Theory of Reasoned Action (Davis et al., 1989; Karahanna et al., 1999; Jayawardhena and Foley, 2000; Venkatesh and Morris, 2000; Karjaluo et al., 2002). Explorations of demographic correlates of technology acceptance have produced differing results with respect to significant relationships to adoption. In part, these differences may relate to the sets of variables included in the analysis. Gender has not been found to have a direct effect on adoption of technology in general (Taylor and Todd, 1995; Gefen and Straub, 1997), but men and women appear to have different acceptance rates of specific computer technologies, with men more likely to adopt (Gefen and Straub, 1997). Results with respect to gender may be confounded by marital status. When it comes to bank accounts, married couples may have jointly held accounts; thus at the household level, adoption of e-banking may be related to the combination of marital status and gender, with married couples more likely to adopt than either single males or single females. Research has also linked age and adoption of technologies, with younger persons being more likely to adopt (Zeithaml and Gilly, 1987; Trocchia and Janda, 2000; Karjaluo et al., 2002; Lee et al., 2002). Race has not often been included in studies of technology adoption. Lee and Lee (2000) did find that for direct bill payment, minorities were less likely to have already adopted the technology. Increases in income and education tend to be positively related to the adoption of an innovation (Donnelly, 1970; Uhl et al., 1970; Labay and Kinnear, 1981; Kennickell and Kwast 1997; Daniel, 1999; Lee and Lee, 2000; Jayawardhena and Foley, 2000; Mattila, 2001; Lee et al., 2002; Karjaluo et al., 2002). Research limitations/implications – Results may or may not differ according to whether consumers are using online, telephone banking, electronic funds transfer (EFT) or direct bill payment. These results may generalize to telephone banking and EFT as these products, like online banking, require an active consumer role in using the product. With direct bill payment, consumers need only set up the process initially and then monitor it on a semi-regular basis.

Attitude in the context of human behavior has been studied over many years (Ajzen, 2001). The term "Attitude" is used to denote the overall degree of favorability. By definition, "an attitude is an index of the degree to which a person likes or dislikes an object", see Ajzen and Fishbein (1980, p. 64). For a more comprehensive explanation of attitude see East (1997). Attitude plays an important role in inducing different choice behaviour and behavioural intentions (Dabholkar, 1994). The formation of attitude involves a combination of cognitive beliefs and affective feelings about the attitude object (Zanna and Rempel, 1988).

#### **DIFFUSION AND ADOPTION OF INNOVATION**

A major issue in marketing and consumer behavior is the acceptance of new product and services. The framework for exploring consumer acceptance of new products is drawn from the area of research known as the diffusion of innovations. To closely understand diffusion of innovations there is a need to understand to related processes. The diffusion in the broadest sense is a macro process concerned with the spread of a new product (An Innovation) from its source to the consuming public. In contrast, adoption is a micro process that focuses on the stages through which an individual consumer passes when deciding to accept or reject a new product.

Diffusion researchers have identified five product characteristics that influence consumer acceptance of new products:

- 1) Relative advantage –The degree to which potential customer perceived new product as superior to existing substitutes.
- 2) Compatibility- The degree to which potential consumers feel a new product is consistent with their present needs values & practices.
- 3) Complexity- The degree to which a new product is difficult to understand or use.
- 4) Trialability- The degree to which a new product is capable of being tried on a limited basis.
- 5) Observability- The degree, to which a product benefit or attributes can be observed, imagined or described to potential customers.

**Proposed variables affecting e-banking are**

<b>Construct</b>	<b>Definition</b>	<b>Source</b>
(Dependent variable) Attitude	The term “Attitude” is used to denote the overall degree of favorability. Its define as “an attitude is an index of the degree to which a person likes or dislikes an object”,	Ajzen and Fishbein (1980, p. 64) Davis et al., 1989;  Taylor and Todd, 1995
(Dependent variable) Intention to Use-	A person readiness to adopt internet banking.	Davis et al., 1989
(Independent Variable) Usefulness	The Perceived usability is characterized as "the degree to which an individual accepts that utilizing the framework will be free of exertion"	(Davis et al., 1989) (Dollet al., 1998)
(Independent Variable) Ease of Use	It has been defined as “the degree to which a user would find the use of a particular technology to be free from effort on their part”.	(Davis et al., 1989).
(Independent Variable) Need for interaction	It’s defined as a “desire to retain personal contact with others during a service encounter”.	(Dabholkar, 1992).
(Independent Variable) Risk	“Risk is the probability of certain outcomes given a behavior, and the danger and severity of negative consequences from engaging in those behaviors”.	Cunningham (1967)
(Independent Variable) Compatibility	“The more a technology is perceived to be compatible with existing technology the higher is confidence of mastering the new technology & more positive the attitude that can be derived”.	(Branchean & Wetherbe 1990) Cortes 1982
(Independent Variable) Prior Experience of Computer and Technology	“Impacts on consumer beliefs and attitudes towards related systems & technology”.	(Karjaluoto et al. 2002) (Arnd et al, 1985)(Levin & Gordon 1989)

**RESEARCH PURPOSE**

This research based on e-banking is chosen because by general observation, it was noted that many people are not very much aware of electronic banking. In the present scenario, it is very useful for saving time and efforts.

This study proposes a conceptual framework to investigate the effects of perceived usefulness, perceived ease of use, risk, need for interaction and prior experience of computer and technology on customer adaptation mediated through customer attitude in the context of e-banking.

Thus in order to promote E-banking product and services by making customers more aware of them and determine and highlighting to banks and their problem area.



**OBJECTIVES OF STUDY**

This research has two objectives, primary and secondary.

- o Primary objective of the research is to find impact of selected factors on e banking adoption.
- o To find attitude of users towards e banking.
- o To find intention of users for the adoption of e banking.

**HYPOTHESIS**

The theory of reasoned action –TRA (Ajzen and Fishbein 1980,) and the technology acceptance model -TAM (Davis 1989) provide the theoretical foundation for the development of our model. While the TRA explains consumer behavior on the basis of attitudes and reference group influence, the TAM posits that perceived usefulness and perceived ease of use determine a person's behavior and two variants taken from Karjaluoto et al. [2002] research work that are Prior Computer Experience Prior and Technological Experience, remaining two Need for Interaction, Perceived Risk and Compatibility taken from Dabholkar, (1992),Cunningham (1967) and { Branchean & Wetherbe (1990) Cortes (1982)} respectively.

Based on the literature we generate the following hypotheses with respect to quality features of e banking for the adaptation of technology:

**Proposed Hypothesis: Demographic Hypothesis**

H01: There is no significant difference between Attitude (ATT) towards e-banking based on gender.

H02 : There is no significant difference between Behavioral Intention (BI) to use e-banking based on gender.

H03 : There is no significant difference in Attitude (ATT) towards e-banking among the different age group.

H04 : There is no significant difference in Behavioral Intention (BI) to use e-banking among the different age group.

H05: There is no significant difference in Attitude (ATT) towards e-banking based on education.

H06: There is no significant difference in Behavioral Intention to use e-banking based on education.

H07: There is no significant difference in Attitude (ATT) towards e-banking based on occupation.

H08: There is no significant difference in Behavioral Intention to use e-banking based on occupation.

H09: There is no significant difference in Attitude (ATT) towards e-banking among different groups of income.

H010: There is no significant difference in Behavioral Intention to use e-banking among different groups of income.

**Hypothesis for selected factors**

Ha11 (a,b,c,d,e). There is significant impact of Perceived Usefulness (PU) Perceived Ease of Use (PEU), Need for Interaction (NI), Perceived Risk (R) and Compatibility (CP) on Attitude (ATT) towards E banking

Ha12. There is significant impact of Attitude (ATT) towards E-banking on Prior Computer Experience (PCE)

Ha13. There is significant impact of attitude towards E-banking on Prior Technological Experience (PTE)

Ha14. Attitudes (ATT) towards E-banking will have significant impact on Behavioral Intention (BI) to use E-banking

Ha15. Prior Computer Experience (PCE) will have significant impact on Behavioral Intention (BI) to use E-banking

Ha16. Prior Technological Experience (PTE) will have significant impact on Behavioral Intention (BI) to use E-banking

**RESEARCH METHODOLOGY**

This research based on e-banking is chosen because by general observation, it was noted that many people are not very much aware of electronic banking. In the present scenario, it is very useful for saving time and efforts.

This study proposes a conceptual framework to investigate the effects of perceived usefulness, perceived ease of use, security and privacy on customer adaptation mediated through customer attitude in the context of e-banking.

Thus in order to promote e banking product and services by making customers more aware of them and determine and highlighting to banks and their problem area.

With the help of this research they can remove or restructure their factors which are responsible for short comings and can increase the acceptance of customer.

In this research city selected for research will be Gwalior because here more scope available for e-banking awareness to increase potential customer and variables (dependent and independent) which are required for the further research. (Private and Public both banks available for study) Methodology of this research will be a combination of descriptive, netnography and exploratory research as an effort will make to first gain some basic knowledge on e- banking through the study of previous research on e –banking and also studies recent trends and wording for e- banking. It will also describe customers’ perception, acceptance, and satisfaction for internet banking, manual/traditional banking, ATM banking, and telebanking.

**Sample Size**

Sample size for primary research will be 1000 respondents which include 1000 – e-banking users

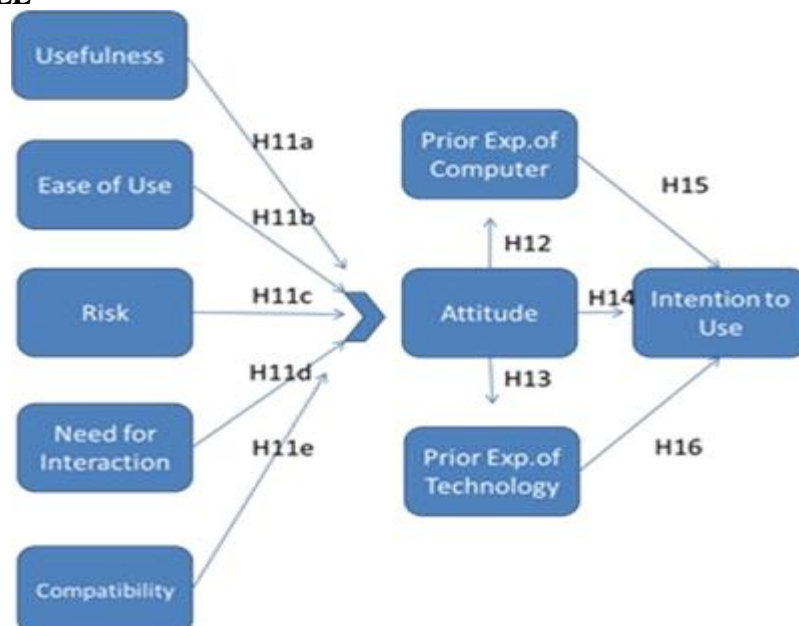
Sample will be selected through convenient sampling e-banking customers. This research study will considered following variables:

Ease to use, usefulness, compatibility, need for interaction, risk, prior computer & technological experience, attitude towards e-banking, behavioral intention to use e-banking. Here we can assume attitude towards e-banking, behavioral intention to use e-banking, as dependent variable and others are responsible for adoption of e banking so they can considered as independent variables for this research. Hypothesis will determine the significant impact of e- banking service quality on customer’s adoption of e-banking products and services. Variables of research will be based on Technological Acceptance Model & attitudes towards Self Service Technologies (Meuter et al., 2000) .

**PROPOSED VARIABLES FOR RESEARCH AFFECTING E-BANKING ARE -**

- Perceived usefulness
- Perceived ease of use
- Need to Interaction
- Risk
- Compatibility
- Prior Computer and Technology Experience
- Attitude towards e-banking
- Intention to use e-banking

**RESEARCH MODEL**



**DATA COLLECTION**

This research based on primary as well as secondary data. The primary data collected with the help of designed questionnaires. The secondary data will be collected from newspapers journals, magazine, periodicals, web data, and published research work through various scholars.

This research involved E-banking users as information on their attitudes towards e –banking and intention to use E banking.

In order to test the survey instrument a preliminary convenience sample of 1000 E-banking customers were asked to complete the survey. All of these people answered questions covering all selected factors included in this study. A total of 333 people answered all questions about E- banking adoption. The response rate is 33.3% for survey.

**TOOLS FOR DATA ANALYSIS**

**Tools that have been used are**

**Independent Sample T-test:** - The t-test assesses whether the means of two groups are statistically different from each other

**ANOVA:** - Analysis of variance (ANOVA) for comparing means of three or more variables.

**Regression:** - Regression analysis is usually used to compute multiple correlations.

**Software used for Data Analysis**

For this purpose of study, extensive use of a Statistical software known as the Statistical Package for Social Sciences (SPSS) version 0.18 has been used to calculate various factors to know relations between variables in order to prove the hypotheses.

**Scope**

This research will be done on e banking users of Gwalior which includes students, business persons, working and non-working customers.

**Significance of Research**

**o To the banks (private and public)**

This research will provide data to the banks regarding the loopholes in the system. Where they are lacking? And how much potential customers/users they have? With the help of this research they can remove or restructure their factors which are responsible for short comings and can increase the acceptance of customer.

**o To the researcher**

This research will be helpful in further research in this field. In India lots of research required in this field for the betterment of the E- banking system.

**o To the customers/users**

They will also get benefited after this research because they will find better quality product and services of E-banking.

**Data Interpretation and Analysis Descriptive Analysis**

In total there were 333 respondents and from which 228 were male and 105 were female, 96 from age group of 15-25,119 from age group of 25-35 and this is big number from whole lot, 79 from 35-45 age group and 39 from 45-55 age group, this is the lowest number as reflects that the as the age increases the people are less adopter of technology. Mean age of users is 2.2 and  $\delta$  (Standard Deviation) = 0.981.

Among the users there were 102 Graduates and 231 were Post Graduates. From the users 130 were Professionals, 66 were in Business and 137 in Services. In the category of income 98 respondents from up to 2.5 lac category, 103 from 2.5 to 5.0 lac, from 5.0-10.0 lac there were 96 respondents, and 36 from above 10 lac group.

Mean value for income 2.21 and  $\delta=$  0.986.

**Research Hypotheses (Demographic) and Results of the Study**

Hypotheses	Sig(p<.05)	Results
H01: There is no significant difference between attitude (ATT) towards e-banking on the basis of gender.	0.88	Not rejected
H02 : There is no significant difference between Behavioral Intention	0.30	Not Rejected

(BI) to use e-banking on the basis of gender.		
H03 : There is no significant difference in Attitude (ATT) towards e-banking among the different age group.	0.036	Rejected
H04 : There is no significant difference in Behavioral Intention (BI) to use e-banking among the different age group.	0.035	Rejected
H05: There is no significant difference in Attitude (ATT) towards e-banking based on education.	0.000	Rejected
H06: There is no significant difference in Behavioral Intention to use e-banking based on education.	0.000	Rejected
H07: There is no significant difference in Attitude (ATT) towards e-banking based on occupation.	0.001	Rejected
H08: There is no significant difference in Behavioral Intention to use e-banking based on occupation.	0.001	Rejected
H09: There is no significant difference in Attitude (ATT) towards e-banking among different groups of income.	0.000	Rejected
H010: There is no significant difference in Behavioral Intention to use e-banking among different groups of income.	0.001	Rejected

**Research Hypotheses (Selected Factor) and Results of the Study**

Hypotheses	Sig(p<.05)	Results
Ha11. There is significant impact of Perceived Usefulness (PU) Perceived Ease of Use (PEU), Need for Interaction (NI) ,Perceived Risk (R) and Compatibility (CP) on Attitude (ATT) towards E banking	(PU) 0.003 (PEU) 0.028 (NI) 0.360 (R) 0.060 (CP) 0.000 (ATT) 0.000	Not Rejected Not Rejected Rejected Not Rejected Not Rejected
Ha12. There is significant impact of Attitude (ATT) towards E-banking on Prior Computer Experience (PCE)	0.000	Not Rejected
Ha13. There is significant impact of attitude towards E-banking on Prior Technological Experience (PTE)	0.000	Not Rejected
Ha14. Attitudes (ATT) towards E-banking will have significant impact on Behavioral Intention (BI) to use E-banking	0.000	Not Rejected
Ha15. Prior Computer Experience (PCE) will have significant impact on Behavioral Intention (BI) to use E-banking	0.000	Not Rejected
Ha16. Prior Technological Experience (PTE) will have significant impact on Behavioral Intention (BI) to use E-banking	0.000	Not Rejected

**RESEARCH FINDING AND CONCLUSION**

The primary objective of the study is to study the impact of selected factors on e-banking adoption in the light of the technology acceptance model (TAM) and (TRA) added with new variables derived from e- banking acceptance literature on one hand. The model we developed proposed that online banking acceptance can be modeled with the variables derived from the TAM (PU and PEOU) and seven other variables referring to Need for Interaction (NI), Risk (R) Compatibility, Prior Computer Experience (PCE) and Prior Technology Experience (PTC). In the results section the model was tested with 333 respondents.

The multiple regression analysis conducted on the five factors indicate that PU, PEU, NI, R, CP was found to be the most influential factors explaining the attitude towards e-banking. This finding refers to the fact that attitude towards e-banking for the benefits it provides in comparison to selected factors. This finding is in line with other TAM studies (e.g. Davis, 1989; Davis et al., 1989), which found that PU and PEOU has significant impact on attitude towards e- banking. This is explained by the fact that as users learn about PU and PEOU, its impact becomes instrumental. The third influential factor (Risk) indicates that attitude towards e- banking is significantly impacted by risk. Risk (R) was almost statistically significant variable in the model also support the study of (Dabholkar, 1996), (Meuter and Bitner, 1998) and (Gatignon and Robertson1991). Another factor Need for Interaction (NI) was not found statistically significant variable for model and not suitable for it. It means an attitude towards e-banking is not influenced by direct interaction with bank employees. Compatibility is another influential factor which impacts the attitude towards e-banking significantly and also supports the review (Apostolos et.al 2012).

The results of the independent sample t-test and ANOVA test that men and women has no different attitude towards e-banking and no behavioral intention to use e-banking, while there is a significant difference among different age groups. It found that users of e-banking age between 25-35 are higher in number and 45-55 are the minimum user in targeted group. So companies can spread more awareness for the age group of 45-55. Education, occupation and income groups have different attitudes towards e-banking and behavioral intention.

### **LIMITATIONS AND FUTURE STUDY**

The study had several limitations first of all, its relatively new concept for respondents. Another limitation concerns the sample. Although the sample size was quite small compared to sample sizes of other TAM studies, and representative, it consisted of Finnish (user) consumers only. This has an effect on the generalization of the findings. The other limitation of this work concerns the measures for user acceptance. TAM studies have found that PU, PEOU, NI, Risk, CP, PEC, PET are not the only predictors of technology acceptance there are many more variables and relationships. Legris et al. (2003) found that many TAM studies are not consistent or clear and lack many significant factors that influence adoption. Partly on this basis, the original TAM has been extended for example by Venkatesh and Davis (2000) who introduced the second version of TAM, labeled TAM2 to explain how subjective norms and cognitive instrumental processes affect perceived usefulness and intentions (see also Venkatesh and Morris, 2000). The discussed findings and their implications are obtained from one single study that examined a particular technology that is e-banking. Thus, need to exercise caution when generalizing the findings and discussion to other technologies or groups. On this basis, our model might also suffer from the fact that, for example, subjective norms and other possible factors influencing the acceptance of online banking were not included in the model. These limitations pave the way for future studies. Furthermore, another interesting avenue for further research could be a detailed study on online banking usage in firms. We should also measure e- banking acceptance with other possible factors derived from different sources of literature. An important area is to look more deeply on marketing literature and test acceptance with for instance innovation theory, self-efficacy of the consumers. Hence, there may be a need to search for additional variables that will improve our ability to predict usage intentions more accurately. Thus a future study should extend the survey to populations in other countries and compare users and non-users countries. Second, the study focused on four cultural dimensions believed to be closely related to the adoption of different technologies.

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**EMOTION RECOGNITION USING FACIAL EXPRESSION ANALYSIS: AN ARTIFICIAL EMOTIONAL INTELLIGENCE BASED MODEL**

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**ABSTRACT**

*Emotion recognition is a concept which is a gift of god to human beings. But now with the upcoming and latest technologies it seems possible that this gift can also be given to machines by humans. Machines can be trained to analyze a person's face and detect the state of mind of that person from his/her expressions. Sometimes humans are not able to share their feelings and emotions with others so it will definitely be a good thing if a machines understand his/her state of mind without getting anything from the person itself and will be able to suggest things which will lighten his/her mood accordingly. There are several times when a person lives alone so, this module will act as a human in the absence of any near and dear one. The relationship between human and machine will become more productive with this concept.*

*A model for recognizing emotion using face expression analysis is proposed. The model will suggest positive ways to be relieved from any stressful or difficult situations. Even the people who are suffering from any mental disease or problem, the machine will help them to improve their state of mind and do positive things. We propose to analyze different types of emotions which includes anger, surprised, happy, sad, neutral, fear. Different machine learning algorithms would be applied to form this model. OpenCV library will be used for implementing image functions and work with images. Coordinates of some common face attributes like eye and mouth will be compared with the attributes of image in the database so that it can predict precise emotion according to them.*

*Keywords: Emotion recognition , face expression analysis, face attributes, machine learning algorithms*

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**1. INTRODUCTION**

“Emotion is a sensibility that outcomes in physical and psychological changes that impacts thought and actions” [1].

The analyzation of emotions is a rudimentary part of the affective computing “affect” means emotion and “computing “ means to calculate.

**Different states of human emotions are:**

- Temper
- Scared
- Cheerful
- Grief
- Surprise
- Disgust

“There are models to create classifier based model for simulating human emotions through emotion words”[2].

Thanks to artificial emotional intelligence, now human ability to recognize faces an distinguish them from among others is automated and even computers can do the same resulting in improved accurate face recognition and detection models[3]. Such models can be useful in various applications like healthcare, social media, criminal justice etc where such models can be efficiently implemented and help[4]. Expression of any person plays a vital role in verifying of emotions of that human. Expressions are also used as a means of communication and that communication is done by the face gestures. Human expressions are very essential in regular communication just like the tone of the voice of a person[5]. Expressions reveal the feelings of a man like in which emotional state they are[6].

In this paper, we are proposing an artificial emotional intelligence based model for recognizing emotion using face expression analysis. The model will suggest positive ways to be relieved from any stressful or difficult situations for every one including those who are suffering from mental disorders and stress relating

problems. The model aims at analyzing different types of emotions which includes anger, surprised, happy, sad, neutral, fear. Different machine learning algorithms would be applied to form this model. OpenCV library will be used for implementing image functions and work with images. Coordinates of some common face attributes like eye and mouth will be compared with the attributes of image in the database so that it can predict precise emotion according to them.

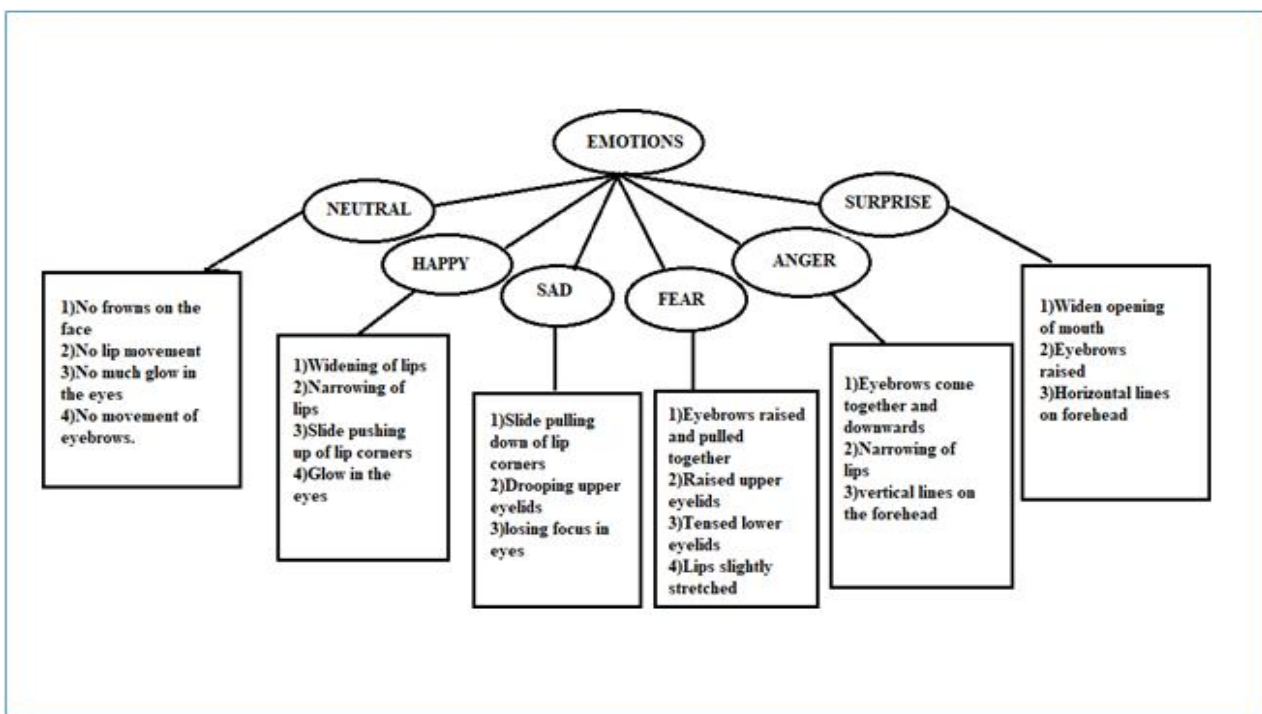
**2. REVIEW OF RELATED WORK**

Recently, some of the major works have been done by engaging automatically elucidation(annotated) of collection(corpora)[7] , thus eliminating the needs of judgements and agreements between them all .After elucidated the collection , we use these collection to train our classifiers under supervised learning technique[8]which gives a way to a new function for more classification. Children stories[10,11] , spoken dialogue[12-14] explained with emotion categories, web logs[15] explained with emotion categories and intensity , news headlines[16] explained with emotion categories and valence are the various Ekman’s classes[3,9] explanations used in the related work done in this field . Other than the

Ekman’s classes, some other manual explained collections consider: [17] explanation with 14 emotion categories [18] explanation with 28 emotion categories,[19] includes explanation with 15 emotion categories and at three different levels of documents, sentence and elements. Various research works have utilized the use of hash-tags, emoticons and other emotion indicators, used for Automatic motion Classifier 567 annotating the data [20-22]. Example [23]annotates the data based on hashtags as keywords [24,25] annotates data based on emotions evaluating six primitive emotions of Ekman’s classification based on expressions of face.



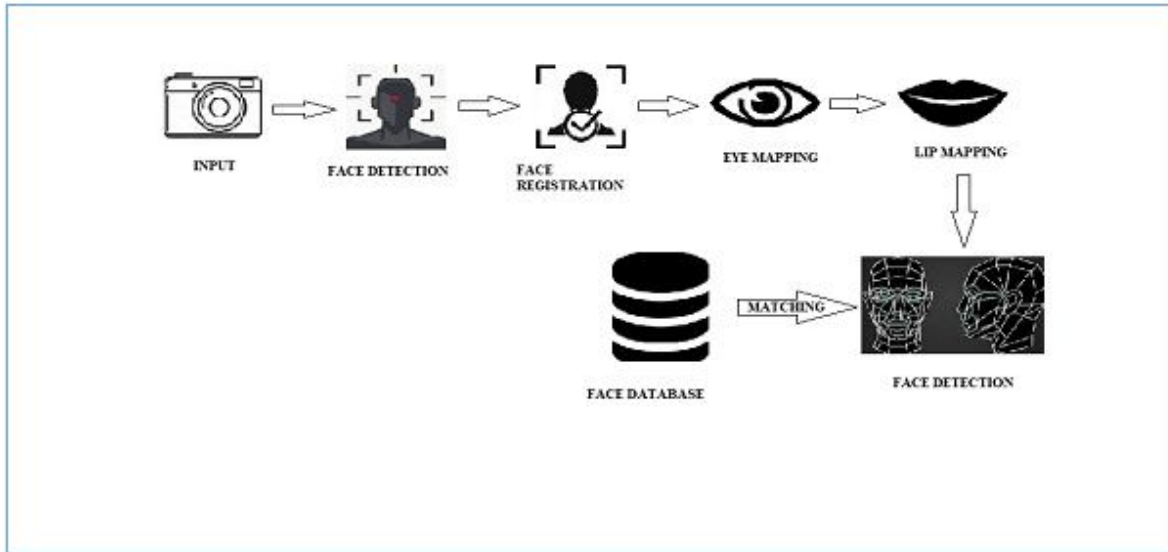
Whatever changes occur on our face are due to different activities of the muscles on our face which have been defined by EKMAN and FRIESEN FACS system(facial action coding system)in the form of different coefficients which are also known as action units[26][27].As we know the emotions of any person is recognizable by the attributes that are present on his/her face and those attributes are eyes, nose, lips, cheeks, lines on forehead etc[28].



**3. FACE RECOGNITION**

Facial recognition is a group of bio-metrics software that mathematically depicts the facial features and then accumulate the data as a face print.

The deep learning algorithms are used by this software to recognize the face expressions.

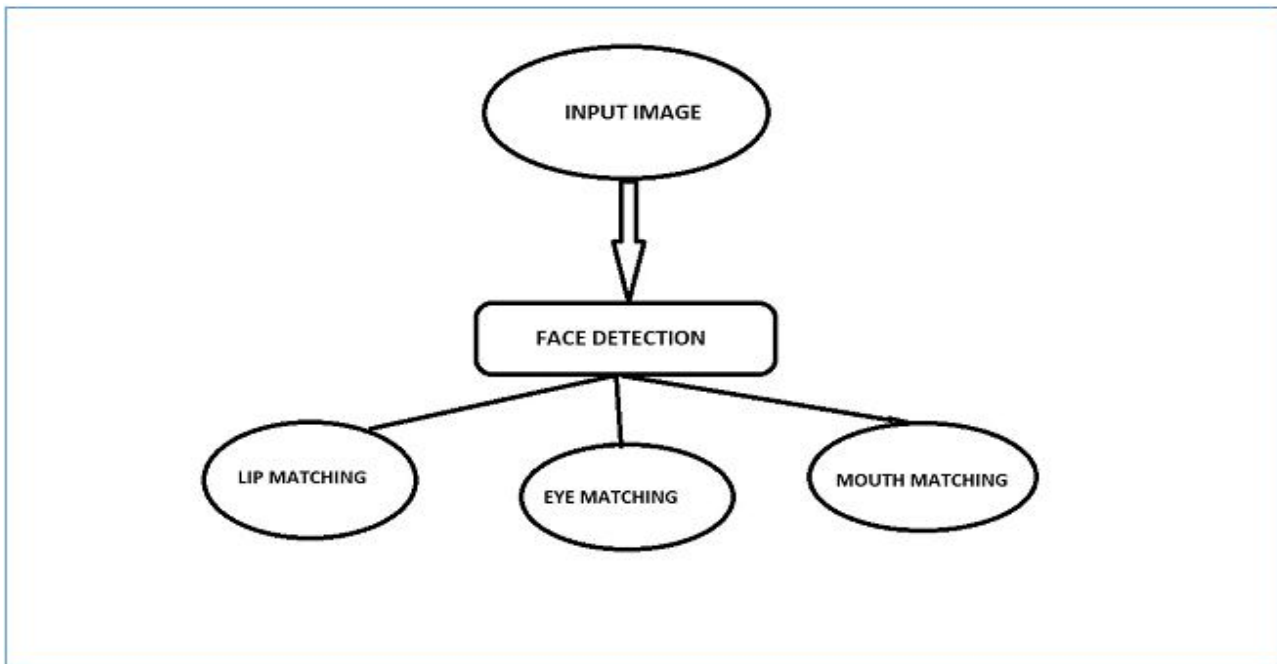


**4. METHOD**

Firstly we will analyze the input which will be taken by the camera. It will use the concept of face recognition to analyze the face and then consider it as an input.

Then it will analyze the face expressions and put them into one of the classifications that is lip, eye and mouth mapping.

It will then compare it with the image data for that particular emotion in the dataset and then final out that which emotion it is. The analysis will be done using KNN and NNM concepts[10].



**5. FEATURE EXTRACTION**

Eye Classifier: We will classify eyes of the person from its face so as to analyze the eye features.

Mouth classifier: We will classify the mouth from the whole face of the person in order to analyze some results from the mouth related attributes.

Lip classifier: In this lips of the person will be mapped and then analyzed in order to compare and final out the emotion.

## 6. FUTURE SCOPE OF WORK

The future scope of this field is to design a mechanism or a way that would be useful in various therapy treatments according to the emotion of the person in a certain situation like music therapy which provide a relief to the people suffering from excessive emotional disorders like anxiety depression, mental stress so that this trauma can be reduced. This may be further implemented in various real time applications to reduce the chances of the emotion detection failure due to bad light or poor camera situation.

## 7. CONCLUSION

The analyzation of emotions using facial recognition system discussed in this research paper represents an adaptable face which represents behavioral and physiological attributes. Physiological attributes express different human face expressions related with different face structure which are basic geometric structures which have base matching pattern for the recognition system. Every expression comes under every situation has a behavioral aspect which relates to the attitude of the one's towards every situation. The training set measures the expressional uniqueness of the person's face and provide the better model in the field of the emotions analysis based on the face movements. Experimental analysis and study shows the efficient recognition of face through expressions. The facial recognitional model is implemented in laptops for recognition process.

Emotion recognition has its various applications in real time scenarios where population's emotion must be recognized in real time. Emotions recognition has its use in fields where machine rules as an instructor, for lie detection using facial expression, for various activity recommendation according to the human mood and other application based on human emotion etc. Emotion recognition from the pictures has a limited real time applications.

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## CONSUMER BEHAVIOR TOWARDS GREEN PRODUCTS: AN EMPIRICAL STUDY

Dr. V N Bajpai<sup>1</sup>, Dr. Satish Kumar<sup>2</sup> and Dr. Ashish Kumar Jha<sup>3</sup>Professor<sup>1,2</sup> and Assistant Professor<sup>3</sup>, I.T.S, Ghaziabad**ABSTRACT**

21<sup>st</sup> century witnessed the vital concern of Governments, Organisations and Society at large for the environment. Many leading organizations around the globe have redefined their strategic intent indicating genuine commitment in making this planet a better place to live. Green products and Green marketing have become the new buzz word for the world to address this concern. This has quiet visible impact on both consumers and manufacturers with respect to their attention toward environment friendly products that are presumed to be “green” or environment friendly. The products under this notion range from energy efficient (low power consuming), electrical appliances, organic foods, recyclable paper, re-usable jars and bottles, and discouraging single use plastic. The term green marketing came in to prominence in late 1980’s and early 1990’s. The present study is undertaken to highlight the major stakeholders' apprehension related to the green marketing issues. The study is exploratory and descriptive in nature, which is based on primary data collected through surveying the consumers of NCR including Noida, Ghaziabad, Greater Noida & Gurgaon.

The paper lays down the conceptual framework followed by categorization of customers based on their level of eco friendliness. The paper covers the impact of demographic variables on perception. It also covers level consumer awareness, source of awareness, preference and level of satisfaction. The study also explores the influence of select demographic variables on the perception of the eco friendly products. The findings reported will be helpful to the organizations in creating, delivering and capturing better value in long run.

**INTRODUCTION**

Green products are the products which are eco-friendly and relatively less harmful for the environment. The other aspect says, the products which save the energy are known as green products. The marketing activities to promote these products is said to be Green marketing.

Recent past has witnessed the growing concern and positive attitude of consumers and manufacturers for the products which create less pollution thus are relatively less harmful for the environment. “The nature has given enough for all of us to fulfill our need but not our Greed” is a famous saying. The irresponsible use of scarce resources has created an alarming situation where organizations have to redraft Marketing mix elements with the focus on not only fixing up accountability towards preserving natural resources but also taking innovative ways of creating, communicating, delivering and capturing customer value, as a sustainable business model. This becomes more relevant when entire world is discussing about global warming, ozone depletion, erosion of natural resources and quest for safety and healthy consumables.

Now days, more and more customers are becoming not only environmentally conscious but also environmentally responsible. According to a study by Unilever, one third of consumers (33%) prefer to buy from brands with positive social and environmental impact. The study highlights two reasons for consumers’ greater focus on sustainable purchasing in emerging economies like India compared to developed nations, one being the direct exposure to the negative impact of unsustainable business practices, such a water shortage, food poverty, poor air quality and second being the power of social norms such as pressure from family, friends, peer group and even children.

This has created a plethora of opportunities for the organizations that make their sustainability credentials clear. This new domain is called Green marketing.

The other dimension of Green marketing involves the effective utilization of resources in a way that the utilization itself contributes to preservation and regeneration of resources leading to our planet, a better place where future generations will not be deprived of the benefits enjoyed by the present generation in terms of natural resources.

Companies following Green marketing approach sincerely embrace sustainability principles at its core and communicate with their stakeholders about the ecological and social impact of their products and services with transparency, truthfulness. They redefine the traditional 4Ps to make it compatible with their core.

**REDEFINED 4PS OF GREEN MARKETING**

**Product:** - Rightly said that a Product is a bundle of benefits. It is one of the prime element for organisations to create value. Innovative product ideas deal with pleasure and pain of customer. Green products are developed

keeping in mind their environmental impact which serve twin purposes as to decrease pollution and increase conservation of scarce resources. The major features which are to be associated with green products may include-

- Products that can be recycled or reused.
- Products with environment friendly packaging material (Eg: Biodegradable packaging, Corrugated Bubble wrap, Air Pillow made up of Recycled material, Recycled cardboard and Paper etc.)
- Efficient products, which save water, energy or gasoline, save money and reduce environmental impact.

**Price:-** Price is among the most critical factors that determine the value of green product. Organisations must be conscious enough to offer enhanced value to the customers as they are paying additional price for green product.

- The price value may be improved performance, function, design, visual appeal or taste.
- The introductory price of green product should be less. For many products Government provide subsidies to compensate cost to the company.

**Promotion:-** Promoting products and services to target markets includes paid advertising, public relations, sales promotions, direct marketing and on-site promotions. Smart green marketers will be able to reinforce environmental credibility by using sustainable marketing and communications tools and practices. Green promotion involves configuring. British petroleum (BP) displays gas station which its sunflower motif and boasts of putting money into solar power. Indian Tobacco Company has introduced environmental-friendly papers and boards, which are free of elemental chlorine. Toyota is trying to push gas/electric hybrid technology into much of its product line.

**Place:-** This decision is very important that where and when to make a product available so that it will have a significant impact on consumer. Green place is about managing logistics to cut down on transportation emissions, thereby in effect aiming at reducing the carbon footprint. For example, instead of marketing an imported mango juice in India it can be licensed for local production. This avoids shipping of the product from far away, thus reducing shipping cost and more importantly, the consequent carbon emission by the ships and other modes of transport.

## REVIEW OF LITERATURE

Fitchett and Prothero (1999) in their study consider the potential for utilizing the commodity form to further the green marketing project. It is proposed that rather than considering the capitalist project in opposition to ecological concerns, the commodity form offer the potential to encourage environmentally responsible behavior in both consumers and organization. It is argued that the problem is not the commodity itself, but the contemporary organization and structure of commodity relations. The mainstream green commodity can be achieved via the utilization and not the rejection of the commodity form. The authors suggest that this approach would enable organizations to move towards developing eccentric strategies.

Peattie (1999) suggest that an alternative to conventional market segmentation should be developed in order to understand the green purchasing behavior and it should focus on the purchase rather than the purchaser. The author has developed a framework to segment consumers based on the perceptions regarding green purchase. A matrix is developed based on the degree of compromise and degree of confidence. The purchases

Ginsberg and Bloom (2004) propose that the companies handling the dilemmas associated with green marketing should always keep in mind that the consumers are unlikely to compromise on traditional product attributes such as convenience, availability, price, quality and performance. The authors suggest the green marketing strategy matrix for different market and competitive conditions ranging from the relatively passive and silent "lean green" approach to the more aggressive and visible "extreme green" approach with "defensive green" and "shaded green" in between.

Many issues have been identified by researchers with respect to Green Marketing (Welling and Chavan, 2010). Practicing green marketing initially may prove to be a costly affair as it encourages green products/services, green technology, energy efficient machines, green power/energy which requires huge investment on R&D activities. High investment is required in marketing promotions to create awareness regarding green products and their uses. Many customers may not be willing to pay a premium for green products which may affect the sales of the company. Eco-labeling could be a way to convince the customers regarding green products. For additional value/ benefit, consumers might be ready to pay higher price (such as quality, environmentally safe product, fuel-efficient vehicles, and non-hazardous products) attached with the product. Green Marketing can help organizations to gain a competitive advantage and a strong consumer base. (Renfro L A, 2010).According

to Joel Makower (cited by Shafaat & Sultan, 2012), challenges faced by green marketer also include the lack of standards and common consensus among the public about what actually constitutes “green”. Despite these challenges, green marketing continues to gain popularity, particularly in light of growing global concern about climate change. Companies are coming forward to showcase their commitments to reduce adverse climate impacts of their products and services.

**RESEARCH OBJECTIVES**

- ❖ To find out if green products are really environmental friendly.
- ❖ To find out consumer’s preferences of green products over other products.
- ❖ To find out if shopping habits of consumers have a favorable/adverse environmental impact.
- ❖ To find out the factor which affect customer in purchasing green products.
- ❖ To understand companies initiatives to go green is myth or reality.

**RESEARCH METHODOLOGY**

Type of research	Descriptive & Exploratory
Sampling	Simple Random sampling
Sample Area	Rural, Semi urban & Urban part of NCR, Delhi
Sampling Unit	College students, malls visitors, rural people
Sample Size	358
Data Type	Primary & Secondary
Data collection Method	Survey, discussion with retailers
Data collection tool	Questionnaire/ Schedule (Likert Scale)

The demographic segmentation of respondent are summarized in table 1. The questionnaire is divided into two parts. The first part covers the information of demographic variables of respondents ( area , gender , age . education . occupation & income ) and the second part covers the question to obtain data required for measuring the various other components.

**ANALYSIS & RESULTS**

DEMOGRAPHIC PROFILE OF RESPONDENT		
Demographic variables of respondents	Percentage (%)	
Gender	Male	74
	Female	26
Age	Age group	
	20-30	39
	30-40	32
	40-50	20
	Above 50	08
Education	Post graduate	35
	Graduate	43
	Intermediate	12
	Others	10
Occupation	Service	50
	Self employed	31
	Agriculture	08
	Student	11
Income (per month in Rs)	Income group	
	NILL	10
	10000-20000	47
	20000-30000	31
	30000 above	12



**KMO AND BARTLETT'S TEST**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.536
Bartlett's Test of Sphericity	Approx. Chi-Square	658.572
	Df	91
	Sig.	.000

**VALUE OF KMO IS 0.536 THAT MEANS DATA IS RELIABLE.**

**COMPONENT MATRIX (A)**

	Component					
	1	2	3	4	5	6
Government runs sufficient awareness programs about green products.	.677	-.035	-.341	.209	.149	-.026
Social media has larger impact on me for the use of green products.	.575	.218	-.044	.405	.327	.070
Green products are easily available everywhere.	.544	.345	-.092	-.490	-.091	-.181
Advertisement encourages me to buy green products.	.517	-.047	-.186	-.405	.136	.195
I use it due to Government compliance.	-.087	.633	.265	.089	.196	.348
Green products are costlier than other products.	.221	-.571	.255	-.230	.289	.264
Green products are less harmful.	.353	.516	.345	.021	-.291	-.328
Green products creates less pollution.	.416	-.498	.030	-.212	.123	-.069
Green products creates less noise pollution.	.121	.125	.679	.006	.466	.158
Green products are environment friendly.	.318	-.041	.190	.500	.028	-.153
I will purchase green products even if it is costlier by 25% than other products.	.429	-.381	.075	.434	-.253	-.166
The life of green products are longer	.455	.091	.368	-.302	-.501	.161
Green products are safer to use.	.059	.397	-.428	-.157	.434	-.283
Performance of Green products is better than other.	.200	.189	-.407	.208	-.296	.680

**EXTRACTION METHOD: PRINCIPAL COMPONENT ANALYSIS. 6 COMPONENTS EXTRACTED.**

**ANALYSIS OF ABOVE MATRIX**

First component consist variables Government runs sufficient program, Impact of social media, Availability, Advertisement. Out of these variables governments program is most effective and advertisement is least effective.

**Second** component consist the following variable; compliance of Govt. costlier, less harmful, less pollution. Out of these variable compliance of Govt. is most effective and less pollution is least effective.

**Third** component consist only one variable that is green products creates less noise pollution.

**Fourth** component consist the following variables environment friendly and 25% more costlier.

**Fifth** component consist the following variable; longer life and more safety.

**Sixth** component consist only one variable that is performance of green products.

**HYPOTHESIS TESTING**

**PAIRED-SAMPLES T TEST**

When the data are structured in such a way that there are two observations on the same individual or observations that are matched by another variable on two individuals (twins, for example), the samples are paired.

(i) First paired sample T test between green products are easily available everywhere and advertisement encourages to buy green product. Result is given below.

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Green products are easily available everywhere. - Advertisement encourages y me to buy green products.	-.10894	1.50513	.07955	-.26538	.04750	-1.369	357	.172

Table shows that through advertisement awareness can be spread that can be supported by the increased availability of the green products and this when we put together will increase the sales of green products .

(ii) Second paired sample T test between green products are costlier over other products and consumer will purchase even if it is costlier by 25 %. Result is given below

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Green products are costlier than other products. - I will purchase green products even if it is costlier by 25% than other products.	.09777	1.47584	.07800	-.05563	.25116	1.253	357	.211

Table shows that consumer will purchase green products even these are costlier by 25 % because people think that these products are eco friendly and less harm full.

(iii) Third paired sample T test between green products are less harmful and green product are environment friendly Result is given below

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Green products are less harmful. - Green products are environment friendly.	-.03631	.72670	.03841	-.11185	.03922	-.945	357	.345

Table shows that green products are eco-friendly that’s why they are less harmful for the society.

**Table 3 :- Ranking of the factors that affect customers purchase decisions.**

	Rank 1 <sup>st</sup>	Rank 2 <sup>nd</sup>	Rank 3 <sup>rd</sup>	Rank 4 <sup>th</sup>
Price	92	194	50	22
Durability	74	101	155	28
Availability	34	97	59	168
Eco –friendliness	291	32	17	18

**MAJOR FINDINGS AND OBSERVATIONS**

1. It has been observed that the more, people believe that the efforts of an individual can make a difference in the solution to environmental problems, the greater their will be likelihood of buying green.
2. One's level of environmental concern is linked to interest in and willingness to purchase green products and considering safety to the environment more strongly when making a purchase.
3. People are ready to purchase green products even if they are costlier by 25%. This shows the concern of Indian people for the environment and their readiness to contribute their bit for this.
4. The major factors that affect people to go for green products are eco-friendliness, price and their availability.
5. Study also shows that green products are really safe and less harmful.

**Government Role:-** Government undertakes many initiatives and awareness programmes to protect the interest of consumer, this protection has significant green marketing implications. Governmental regulations relating to environmental marketing are designed to protect consumers in several ways:

- 1) Discouraging the use of products which are not environment friendly.
- 2) Discouraging the use of harmful products as an input to the production process as well as unfriendly bi-products.
- 3) Enforcing post use disposal of products/ packaging material in prescribed manner.

India has always been alive to its responsibilities in the area of environment, both in the domestic and international context. Indian government has, over the years, not only developed a very comprehensive framework of legislations with attendant rules and regulations, but also played an active role in developing and implementing international conventions. They have been fast to incorporate the best of global standards and regulations.

**RECOMMENDATIONS FOR BUSINESSES**

- Organisations should incorporate the growing concern of customers towards environment and green products in their business plan for sustainability.
- To be adaptive to the current and new environmental, and industry legislation/ initiatives, laid by the Government time to time.
- Encouraging innovative technologies and approaches that minimize the cost of dealing with pollution and improved resource and energy efficiency
- Understand all of the environmental impacts of your product across its lifecycle from production to disposal.
- Organisations should focus on improvement in environmental footprint (across the entire lifecycle), and incentivize their customer and suppliers to join on the journey
- Provide independent evidence and contacts for third-party certifications/ labels

**CONCLUSION**

Through above analysis we can say in nutshell that green products are really environment friendly. Green products are less harmful for environment. So many companies are promoting the green concept and it is mention in strategic intent of many companies. Many consumer who belong to rural India they do not know about green products and the benefits of green products, and consumers are more price conscious so that is why they do not purchase green products. People who belong to urban and semi-urban they know about benefits of these products so that is why they purchase these products even then pay more. If we say India is ready to adopt green concept or not. We can say that urban and semi-urban people are ready but rural people are not ready to adopt this concept. So adopting the concept of green as a whole government and companies should more focus on awareness programs.

**IN A NUTSHELL**

- Green product development is more than just creating products that are environmentally friendly, it is about systemic change in society that includes consumers, producers and the general commercial structure within which they negotiate
- By widening & deepening the meaning of green, relevant actors will have an economic incentive to pursue green product development.
- Harnessing the market forces that favors green product development will lead to mainstream green.

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**OLD WINE IN NEW BOTTLE: ANCIENT INDIAN MEDICINES**

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**ABSTRACT**

*Traditional medicines are the most valuable asset for the developing countries like India. India is a natural resources rich country and very popular for their traditional assets like Ayurvedic medicines and other kind of herbs. The increased commercial interest in traditional medicine has made international and national communities to revise and amends their law to protect their unique systems and reward local indigenous communities to whom knowledge essentially belongs. This paper is an effort to define traditional medicine and its relevance across the people in Indian tribal areas. How people in ancient India attracted people across the world to get benefited by this medicinal heritage. Of course it was a pious blessing for people of India who arranged there bread and butter with the help of traditional medicine. The key focus in this paper on people living in tribal areas are having the skills to identify right herbs and shrubs to treat patients and it could be commercialized for the benefits of all those and improve their lively hood. Available literatures indicated that there are great uses of traditional medicines in India and it was only available option for the patients. Apart from that due to side effects of synthetic products, herbal products are gaining popularity in the world market. In spite of well-practiced knowledge of herbal medicine and occurrence of a large number of medicinal plants, the share of India in the global market is not up to the mark. The present study deals with the measures to be adopted for global promotion of Indian herbal products.*

*Keywords: Herbal medicine, Traditional medicine, Ancient India, R &D and TRIPS*

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**INTRODUCTION**

Traditional medicine is the sum total of the knowledge, skills and practices based on theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses. Traditional medicine has a long history, and while for many traditional medicinal products scientific, documented evidence of safety, efficacy and quality is scarce, these products have been "field-tested" for centuries by thousands of people; much empirical knowledge has thus been accumulated in communities and has been passed on by generations of healers. The World Health Organization therefore advocates a critical, but open-minded attitude to traditional medicines (Allexder. c, 2014).

In some countries, the terms complementary medicine, alternative medicine or non-conventional medicine are used inter-changeably with traditional medicine. However, those terms refer to a broad set of health care practices that are not part of the country's own tradition and are not integrated into the dominant health care system. World Trade organization and Trade related intellectual property right ship both are interdependable, Due to the Globalization, there has been a lot of challenges came. The resulting Agreement on Trade-Related Intellectual Property Rights (TRIPS) is one of three pillar agreements, setting out the legal framework in which the World Trade Organization (WTO) has operated since the end of the Uruguay Round (Abramson JH).

For the multilateral trading system, TRIPS marked the departure from narrow negotiations on border measures such as tariffs and quotas toward the establishment of multilateral rules for trade-affecting measures beyond borders. This move reflected underlying trends in international commerce. Due to the growth of trade in knowledge and information-intensive goods, the economic implications of imitation, copying, and counterfeiting had in many industries become at least as relevant for international commerce as conventional border restrictions to trade. The Indian Pharmaceutical industry has transformed itself over the past three decades in India, being almost non existing till 1970's, to now being a prominent provider of Pharmaceutical Products. The Indian Pharmaceutical industry meets approximately 95% of the country's pharmaceutical needs. The present turnover of the Indian Pharmaceutical Industry is approximately \$ 9.0 billion of which the share of exports is 40%. Compared to the global picture, the Indian pharmaceutical Industry ranks 4th in terms of volume, and 13th in terms of value, which is highly significant. The Indian Government has implemented the new product patent regime in India, as India had signed the WTO agreement and since Trade Related Intellectual Property Rights (TRIPS) was a part of WTO agreement, India was bound to implement the provisions of TRIPS agreement. This meant that India had to make significant changes in its patent law and respect the Intellectual Property Right's (IPR's) as done by other WTO member countries. India implemented from 1st January 2005.

**NEED OF THE STUDY**

All developing countries are running with a crucial problem called poverty and they are not able to make available all facilities to their citizen. Healthcare is the most vital problem in this regards. So more than crores people getting die due to unavailability of life saving medicine. Rising R&D costs imply that only giant corporations with formidable R&D, marketing and financial capabilities will be able to afford extensive new drug developments and commercialisations. Since it is difficult for each unit to invest in R&D, to economise on scarce R&D resources and to avoid the probable duplication, pooling of R&D resources and mergers of firms have been identified as possible solutions. Governments, international agencies and corporations are increasingly investing in traditional herbal medicine research. Traditional herbal medicines are naturally occurring; plant-derived substances with minimal or no industrial processing that have been used to treat illness within local or regional healing practices. Traditional herbal medicines are getting significant attention in global health debates. In China, traditional herbal medicine played a prominent role in the strategy to contain and treat severe acute respiratory syndrome (SARS).<sup>1</sup> Eighty per cent of African populations use some form of traditional herbal medicine, and the worldwide annual market for these products approaches US\$ 60 billion.<sup>2</sup> Many hope traditional herbal medicine research will play a critical role in global health. China, India, Nigeria, the United States of America (USA) and WHO have all made substantial research investments in traditional herbal medicines. Industry has also invested millions of US dollars looking for promising medicinal herbs and novel chemical compounds.<sup>4,5</sup> This is still a relatively modest investment compared to the overall pharmaceutical industry; however, it raises interesting ethical questions, some of which are not faced in more conventional drug development.

**LITERATURE REVIEW**

In India Traditional Medicine is being the back bone of the country. Its played important role in meeting the health care needs globally. They are proceeding to do as such at display and will assume significant part in future moreover. The arrangement of drugs which are thought to be Indian in root or the frameworks of solution, which have come to India from outside and got absorbed in to Indian culture are known as Indian Systems of Medicine. India has the remarkable qualification of having six perceived frameworks of medication in this class. They are Ayurveda, Siddha, Unani and Yoga, Naturopathy and Homeopathy. In spite of the fact that Homeopathy came to India in eighteenth Century, it totally acclimatized in to the Indian culture and got advanced like some other customary framework henceforth it is considered as a feature of Indian Systems of Medicine (Prasad, 2002). Aside from these frameworks there are expansive numbers of healers in the fables stream who have not been sorted out under any class. In the present survey, endeavor would be made to give brief profile of three frameworks to acclimate the peruses about them in order to encourage obtaining of additional data.

Ayurveda actually implies the Science of life. It is assumed that the principal and connected standards of Ayurveda got sorted out and articulated around 1500 BC. Atharvaveda, the remainder of the four extraordinary groups of learning known as Vedas, which frames the foundation of Indian human progress, contains 114 songs identified with details for the treatment of various ailments. From the learning assembled and supported over hundreds of year's two noteworthy schools and eight specializations got developed. One was the school of doctors called as 'Dhanvantri Sampradaya' (Sampradaya implies custom) and the second school of specialists alluded in writing as 'Atreya Sampradaya'. These schools had their separate delegate gatherings Charaka Samhita for the institute of Medicine and Sushruta Samhita for the school of Surgery. The previous contains a few sections managing diverse parts of solution and related subjects. Around six hundred medications of plant, creature and mineral beginning have been specified in this treatise. Sushruta Samhita essentially manages distinctive parts of basic standards and hypothesis of medical procedure. In excess of 100 sorts of careful instruments including surgical tools, scissors, forceps, and specula and so on are depicted alongside their utilization in this report. Dismemberment and agent strategies are clarified making utilization of vegetables and dead creatures. It contains depiction of around 650 medications and talks about various viewpoints identified with other medical procedure related themes, for example, life systems, embryology, toxicology and therapeutics (<http://www.indianmedicine.nac.in>). Vagabhata's 'Astanga-Hridaya' is considered as another real treatise of Ayurveda. The over three archives are prominently known as 'Brihat trayees' (the enormous or significant three). Notwithstanding these three insightful and legitimate treatises a huge assortment of writing exists as arrangements covering a time of over 1500 years (Prasad 2002).

Till the medieval period it was maybe the main framework accessible in the Indian subcontinent around then to take into account the medicinal services necessity of the general population. It delighted in the unchallenged support and support of the general population and their rulers. This can be considered as the brilliant time of Ayurveda on the grounds that a large portion of the business related to essential ideas, articulation of various

standards, and evolvement of various details happened amid this period. The support for the Ayurveda arrangement of drug significantly diminished amid the medieval period, which was set apart by agitated political conditions in the nation and arrangement of attack by outsiders. The disregard turned out to be more awful amid British governs amid which significance was given to Allopathy through authority support. In the early piece of twentieth century enthusiasm for Ayurveda revived as a major aspect of national opportunity development. Individuals' agents even in English India and august states began requesting appropriate measures to create Ayurveda on logical lines (Shukla, 2007)

Characteristic items have an extensive variety of assorted variety of multi-dimensional substance structures; in the interim, the utility of characteristic items as organic capacity modifiers has additionally won impressive consideration. Accordingly, they have been effectively utilized in the disclosure of new medications and have applied a sweeping effect on chemical biology (Hong, J.Y 2017).

From the previous century, the high basic decent variety of common items has been acknowledged from the point of view of physical science. Their viability is identified with the multifaceted nature of their efficient three-dimensional synthetic and steric properties, which offer numerous points of interest as far as effectiveness and selectivity of atomic targets. As an effective case of medication advancement from common items, artemisinin and its analogs are by and by in wide use for the counter jungle fever treatment. This shows how inquire about utilizing common items has made a huge commitment in tranquilize advancement (Muschiatti 2013). Among anti-cancer medications affirmed in the time period of around 1940– 2002, roughly 54% were inferred normal items or medications propelled from learning. Toward the start of the nineteenth century, the time of "present day" drugs started. In 1805, the in the first place pharmacologically-dynamic compound morphine was disconnected by a youthful German drug specialist, Friedrich Sertürner, from the opium plant (Hamilton 2007). In this way, endless dynamic mixes have been isolated from characteristic items. Among them, some take after their customary uses and the others don't. Afterward, the improvement of manufactured procedures prompted a critical decrease in the significance of normal items, and there were worries that the utilization of some common items for therapeutic purposes may be totally restricted. In any case, normal items are vital for the improvement of new medications, and these items have been in steady utilize. Some sort of meds, for example, anticancer, antihypertensive, and antimigraine prescription, have profited enormously from normal items (Newman 2003).

### **OBJECTIVE OF THE STUDY**

After a debate among Member of Parliament Our Prime Minister Dr. Manmohan Singh said that there is a large gap between people live in India and Bharat. The message behind this was the poverty of the large number of people who living below the poverty line. A few percentage of the population availing medical facilities because they belong to upper income group. Still after independence 2 millions of people not medically secure due to the unexplained causes, but one of this is the costly medicine. They still depend over the domestic and local herbs, and using it to make cure the sufferer.

Proposed objective of the study is....

- 1) To find out the possible role of Traditional medicines in India.
- 2) To find out the impact of unavailability of life saving medicine in India and Bharat.

### **THE INDIAN PHARMACEUTICAL INDUSTRY: FUTURE SCENARIO OF TRADITIONAL MEDICINE**

The above discussion highlights that the impact of IPR will largely depend on the developmental status of the economy such as the availability of technical manpower and infrastructure, capacity of the domestic industry, and so on. A country with a strong domestic industry such as India is in a relatively advantageous position than a country where domestic industry does not have much presence and depends on multinationals. It is true that the impending WTO regime has stimulated the R&D investment in India. Some of the big units have started strengthening their R&D and have also filed number of applications for patents. There is some evidence available regarding the mergers and amalgamations to pool the human and financial resources (CMIE, 2000) to strengthen the R&D in new product development. These firms will definitely benefit by the stronger protection. Some of the R&D and manufacturing facilities set up in these firms meet the international standards, and they have already been approached by multinationals for conducting research and undertaking manufacturing on their behalf. Besides the R&D investment in traditional chemical based screening, some of the R&D firms are looking for breakthroughs in biotechnology research. With TRIPS allowing the patenting of the living organisms, research in biotechnology is the latest buzzword in the Western pharmaceutical industry. Significant breakthroughs have already been made in the area of stem cells and cloning which have potential cure for some

of the dreaded diseases like cancer, Parkinson disease, Alzheimer's and nervous disorders. Cloned animals have been patented and are being used for research purposes. The human genome project or the sequencing of DNA, which has already spent about \$3 billion, will be highly beneficial for the pharmaceutical companies to identify the toxicity of the new drugs on different population or in knowing the reasons for prevalence of certain diseases in specific regions or communities.

### TRADITIONAL MEDICINE IN INDIA

The subcontinent of India has a large and well-trained force of practitioner of modern medicine. In addition, it has several types of traditional medicine, the largest of which is called Ayurvedic medicine. The ancestry of this type can be traced back 3,000 years or so, but it evolved into its current form from about 500. Based on Sanskrit texts, it has a wide following at every level of society. It is governmentally supported, has a defined curriculum, and has schools that grant degrees. Some of these schools are part of universities that may also have a modern medical school. Like other major types of Asian traditional medicine, Ayurvedic medicine is based on humoral theories. That is, the human body is considered a microcosm of the universe. The seven body substances bone, flesh, fat, blood, semen, marrow, and chyle are the product of three humors kapha, or phlegm, pitta, or bile; and vata, or wind. Health depends on the equilibrium of these humors, and sickness is disequilibrium. The point of equilibrium depends on age, sex, temperament, climate, nutrition, and the nature of daily activities.

### SCOPE FOR TRADITIONAL MEDICINE: YET TO FIND

Medicinal herbs have been in use in one form or another, under indigenous systems of medicine like Ayurveda, Sidha and Unani. India, with its traditional background, needs to increase its share in the world market. But unlike China, India has not been able to capitalize on this herbal wealth by promoting its use in the developed world, despite their renewed interest in herbal medicines. This can be achieved by judicious product identification based on diseases prevalent in the developed world for which no medicine or palliative therapy is available. Such herbal medicines will find speedy access into those countries. Majority of such kind of herbs which is useful for the development of traditional medicine available in bulk. Governments, international agencies and corporations are increasingly investing in traditional herbal medicine research. Yet little literature addresses ethical challenges in this research. In this paper, we apply concepts in a comprehensive ethical framework for clinical research to international traditional herbal medicine research. We examine in detail three key, underappreciated dimensions of the ethical framework in which particularly difficult questions arise for international herbal medicine research: social value, scientific validity and favorable risk-benefit ratio. Significant challenges exist in determining shared concepts of social value, scientific validity and favorable risk-benefit ratio across international research collaborations.

### WORLD MARKET FOR TRADITIONAL MEDICINE

In most Asian countries, even though allopathic medicine is available, traditional medicine is still very popular, for historic and cultural reasons. This is even the case in a highly developed country like Japan. Similarly, in other industrialized countries, the use of complementary and alternative medicine is increasing - in 1993, a landmark survey found that 1 in 3 adults in the US use some form of alternative medicine, and this seems to have increased since. As a result, in 2000, the world market for herbal medicines including raw materials- has been estimated at 43 billion US dollars (see also figure 2). Furthermore, it is interesting to note that, in the US, OTC sales of herbal medicines doubled between 1991 and 1994, and then again between 1994 and 1998. Similar steep increases in sales of herbal medicines have been reported in the EEC, while growth in sales was even faster in China and Korea.

Ministry of Ayush Budget (Crores)			
Head	Plan	Non Plan	Total
Budget Estimated (2016-17)	28	NA	28
Revised Estimate (2016-17)	NA	NA	NA
Expenditure Up to 2019	14.7		14.7

### CONCLUSION

After the finding this work has concluded the role of traditional medicine. In recent past there were a lot of herbs and shrub available for the treatment of the sick people. Technology was not so updated and there were no presence of allopathic medicines. Population suffered with many crucial and chronic diseases which were curable on that time. It is clear now that majority of the Indian Pharmaceutical companies are satisfied with the efforts of the Indian Government in helping them cope up with the challenges of the price war. However some



companies are not happy with the Government that it has not done enough to help them. They want the Government to help them specifically on the issue of drug pricing. But ultimately his is burden not over the companies but on the People. The Government of India should solve the problems of the pharmaceutical companies because the introduction of the product patent has already hit the pharmaceutical companies hard. The Indian pharmaceutical companies entrepreneurs are already becoming disinterested (example: Ranbaxy which is India's largest pharmaceutical company has sold out to Daiichi Sankyo of Japan) and if slowly MNC pharmaceutical companies take over the Indian pharmaceutical industry then MNC companies will price medicines higher and the common man of India will be a sufferer. The prevalence of a variety of climatic conditions puts India in a supreme position with respect to richness of medicinal flora. As such, India should occupy a significant position in the world trade of botanical drugs. India should focus on agro technology, process technology, standardization, quality control, research and development of herbal drugs. Now, the time has come to compile and document available knowledge on our valuable plant resources and to prove their utility scientifically through detailed photochemical, biological and pharmacological investigations at selected centers in different regions of the country. India should adopt organized cultivation of medicinal plants that have export potential and import substitutions. Efforts should be made to cultivate potential medicinal plants as field crops. Their conservation should be done in appropriate ecological conditions. In order to push India as a significant player in the global herbal product market, herbal products should be standardized as per WHO guidelines.

### **SCOPE OF THE STUDY**

Every study has a great scope beneath their inceptions. Traditional medicine has a widespread scope for their products. Especially in India where it has a great legacy in their womb. According to the report of Indian Journal of traditional knowledge there is huge contribution of the traditional medicine in present scenario. Majority of established drugs has been developed by the scientist after analyzing the chemical ingredients of herbs and shrubs traditionally used by the tribal and rural people (Vedavathy, July 2003). In Himalayan range, there are plenty of varieties available which played vital role in development of new drugs. Drugs discovery strategies based on natural products and traditional medicines are emerging as an attractive option. Traditional medicine and Ayurveda has become the synonyms to each other. Yet there is great scope of development in traditional resources of Ayurveda in India and Government should spent in research and development.

The major lacuna is not to encourage research and developments on these resources since world fraternity are inclined towards the Indian traditional resources. Few corporate houses are investing money on research and development in Herbal sector. Trade related intellectual property rights encourage and supported this heritage in India and people came forward to invest in this sector, but the pace of research and development is not sufficient.

### **LIMITATION OF THE STUDY**

Increasing demand of the traditional medicine to cure diseases in India there are still several challenges are hindering the effort being made to assimilate the national health. The key challenges are unavailability of the literature and required data which enhance the confidence of medical practicenars. Cutting age technology and well versed knowledge is also a hurdle in way of success. Advancing the frontier of knowledge in herbal medicine is very low and it's defaming the uses pattern of such available resources.

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#### 1. Conflict of interest

Research work Titled “Ancient Indian Medicine: A solution for patients at the bottom of the Pyramid” is a qualitative study. It does not correlate with the work of any one. Moreover, there is no conflict of the interest in this paper.

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**2. Source of Funding**

For the said study, there are no funding sources. I hereby declare that I did not avail any financial assistant or help from anywhere to complete the study.

**3. Ethical clearance**

In this study, Researcher has collected the information from the different sources and whatever contents have been used in the study is properly sited in the reference section. There is no experiment on the animals or it could harmful for any one.

## RECENT HR TRENDS AND PRACTICES FOR SUSTAINABLE ORGANIZATION

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**ABSTRACT**

*The ever increasing impact of information technology on HR practices is posing variety of challenges for HR professionals. As we are going more and more technological, we are losing personal touch in our traditional HR Practices, like recruiting through internet, communicating through intranet, reduced personal interactions, work from home concept that demands only virtual work place and not the physical work settings and the discussion can end up debating over the merits and demerits of changing HR practices in the technological scenario. With time management, stress management, human resource management taking back seat, the buzz word today is the Technology Management that is an integral part of contemporary HR practices.*

*The present paper is an endeavor to gain deeper insights into how Employee Management can help small and medium enterprise owners to improve their profitability through managing employees, the most valuable assets.*

*Keywords: Employee management, Green HR, Potential Management, Employee Engagement, Technology*

**INTRODUCTION****WHAT TODAY'S HR LACKS IN: THE CHALLENGES**

- 1. Availability and Accountability.** The stress factor is double-pronged: While HR may be a separate department, it is hardly an island in corporate waters; all company personnel believe they should have some representation through HR. HR should be at the beck and call of all employees. And if the HR professional totally buys into the rescuer role, taking every personnel problem home at night...beware: Burnout is less a sign of failure and more that you gave yourself away.
- 2. Objectivity.** The challenge for an effective and widely accepted HR department is to maintain some functional independence even when part of the management structure. The HR professional must be somewhat detached from yet, also, be an objective and concerned advocate for both management and employees to be a robust problem-solving (not just numbers crunching) force in the organization.
- 3. Multiple Roles.** In light of his or her hub position, not surprisingly, the HR manager/professional often plays many roles – from coach and counselor to cop and confessor. And, if that's not enough, he or she must be the organizational or interpersonal safety net or back up when there are breakdowns or problems with: a) manager-supervisor-employee relations, b) reorganization change, such as a downsizing, c) outdated or illegal policies, d) prejudicial procedures, etc.
- 4. Disgruntled Personnel.** Clearly, as outlined above, there are HR demands and responsibilities a plenty. The proverbial icing, of course, has to negotiate problems with people who have a grievance with a supervisor, are upset about pay, performance evaluation or promotion (or termination) issues. Certainly, it can be emotionally and professionally rewarding helping rectify a significant personnel problem. Still, chronically providing service to angry customers can all too easily result in a case of "brain strain."
- 5. Transitional Glue.** Especially in times of rapid or volatile change – mergers, downsizing or rapid startup or growth – the HR Manager often becomes a company cheerleader (or that stress confessor). He or she often must help folks sustain morale in the face of an uncertain and possibly vulnerable future. The HR Manager may become the messenger helping employees and supervisors interpret reorganization pronouncements from the management mountaintop.
- 6. Crisis Management.** A potential danger in being the hub of the wheel believes you are the center of your corporate solar system. All organizational life depends on your energy source. The HR Manager must realize when certain crises are outside his or her sphere of productive "hands on" influence; one must resist the "solo savior syndrome" role. When downsizing trauma started evoking racial tension and threats.
- 7. Privacy Requirements.** An ongoing challenge for the HR Professional interfacing with numerous individuals, departments and senior managers is sharing critical information and upholding employees' privacy rights. Another stressor recently came to my attention: an HR Manager unsure how to respond to a supervisor's breach of confidentiality. This supervisor unprofessionally (if not, illegally) shared with her employees that a colleague was hospitalized for mental health reasons. Such a breach is like a virus that can

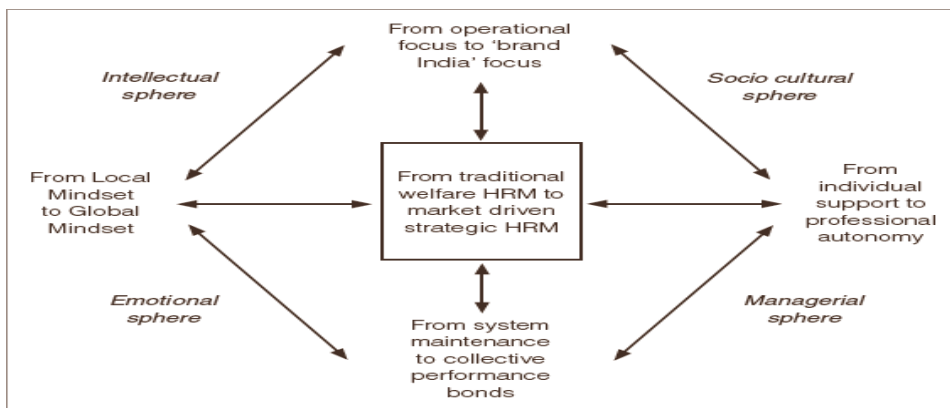
contaminate everyone’s operating system and sense of security. The HR Manager’s standing as a leader is on the line, not just the supervisor’s.

8. **Ever-changing Technology and Policy.** Like other corporate entities, The HR Department must keep up with new software and data processing systems. Increasingly, having an internal website for sharing key information with employees is critical. And invariably, to get up and running technologically takes longer than anticipated.
9. **Training Demands.** The HR Team cannot provide individual handholding with employees for all personnel issues. Depending on company size, HR must have enough time and staff to provide classroom orientation on HR-related matters. An HR manager often needs to delegate the training function to a subordinate. A manager who cannot delegate is a manager who cannot survive. Individuals must be encouraged to do reasonable data gathering or research or else HR will be enabling inefficient, if not dysfunctional, dependence.
10. **Office Space-Time.** Finally, the HR Manager/Department must discover that elusive balance between reasonable physical access and protected space for productive energy. A department without some "closed door" time and a closed meeting space for the HR team invites both productivity and morale problems – from actual privacy violations to free-floating privacy anxieties amongst employees.

**THE CHANGING HR TRENDS AND PRACTICES**

Unlike traditional HRM, that focuses on recruiting, training, appraising and retaining, today’s HRM aims at managing employee in integration with managing technology so that the end result is improving profitability of organization. The issue is particularly important in today’s globally competitive environment as resources are at greater risk and can be best utilized when the employees are developed to feel responsible for working dedicatedly towards achievement of organizational goals.

In the times of economic crisis and during the recovery times, the effectiveness of HR practices is very much important, firstly from the point of view of organizational profitability and secondly from the point of view of employee morale and productivity that gets affected negatively due to economic crisis. Further the information technology while opening new avenues of growth, has posed challenges for HR professionals. Here we discuss the contemporary HR practices being used by HR professionals worldwide focusing on sustainable development.



Source: <http://rphrm.curtin.edu.au>

Figure 1

**GREEN HR PRACTICES**

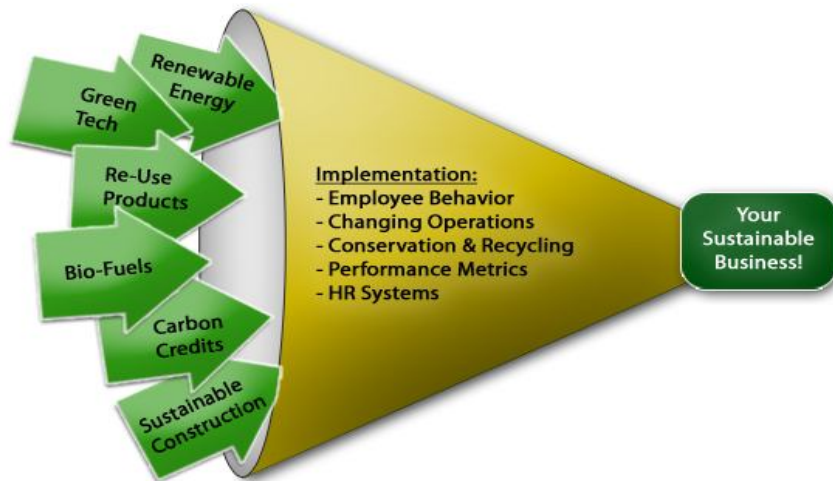
Consumers, Stockholders and Employees these days are taking interest in “Go Green” initiatives and developed a tendency to look at any organization through a green lens. Hence Defining and implementing a Green Strategy is the need of the hour. Role of HR practices is very much important in this perspective that if integrated with the organization’s green strategy, can help to attract and retain employees. If we talk about the benefits, that can be summarized in Figure 2 below.



Source: <http://www.killpackgroup.com>

Figure 2

Across the globe, companies everywhere are adopting new sustainable practices, products & processes with a focus on Green Corporate Strategy and the result is sustainable business.



Source: <http://www.killpackgroup.com>

Figure 3

**EMPLOYEE ENGAGEMENT**

A successful employee engagement strategy helps create a community at the workplace and not just a workforce. When employees are effectively and positively engaged with their organization, they form an emotional connection with the company. This affects their attitude towards both their colleagues and the company’s clients and improves customer satisfaction and service levels. There can be variety of activities to keep employees engaged, a few of them listed below:

- ✚ Communication activities
- ✚ Culture building activities
- ✚ Reward Schemes
- ✚ Regular employee opinion surveys
- ✚ Challenges and opportunities for employees
- ✚ Regular skills updation programmes

**HUMAN POTENTIAL MANAGEMENT**

It seems there is a great tendency for people in the modern day to become so involved in their daily life and work that the potential for their own personal growth and development takes a back seat. So here comes the need to get updates on new technology that can show your potential. The Human Potential Movement was conceptualized in the 1960s through the social, philosophical, and intellectual interchange among Abraham Maslow, Carl Rogers, Rollo May and others like them. It was then theorized that through an individual’s own

self awareness of their potential, he or she could experience a fulfillment in their life and work unlike anything before and, at the same time, bring about and cultivate a positive social change.

Organizations spend considerable portions of their training budgets on programs such as personal-development and coaching to better equip their employees and top management. It is a result of years of continuous trial and error practices among the workforce to pin-point the underlying motivational factors that would enhance performance and increase productivity.

Often synonymous with Humanistic Psychology, the Human Potential Movement nowadays has deep underlying roots in the development of individuals at work or home through understanding and being aware of one's own behavior, and thus being able to direct actions for better contribution towards their lives, work and society.

So what has changed recently? The Human Potential concept itself remains unchanged from its early conceptualization days, though the delivery and effectiveness through which an individual could be self-aware of their own behavior has since been progressing dramatically. Harnessing the power of modern technology and large knowledge based tools and assessments, the time and cost required to identify an individual and his behavior traits has trickled down to but a fraction of what may have been required by a qualified behavioral psychologist to conduct his or her own analysis.

This also means that less time is required by an individual to full appreciate and understand his or her own potential if they choose to do so. Thus the change that may occur within the mindset of an entire firm and its culture can be accelerated.

#### **HRM INITIATIVES TO ENHANCE PERSONAL TOUCH HERE'S HOW**

1. Birthday / Anniversary cards for all family members
2. Distributing discount coupons / Gift Vouchers
3. Department / Division parties
4. Large scale integration meets with top management personnel
5. Family visit to workplace
6. Different kinds of engagement activities like games, yoga, gym etc
7. Merit scholarship to the wards
8. Interest free loan for higher education for self and family
9. Spontaneous Gifts to innovators (value added work) on a day-to-day basis, e.g. movie passes
10. Tea / Coffee / Lunch / Dinner sessions with higher authorities

#### **EMPLOYEE MANAGEMENT STRATEGIES FOR SUSTAINABLE DEVELOPMENT**

Employee Management strategies can be used as a strategic tool to gain competitive advantage especially in times of economic crisis when the focus is on cost cutting. Following aspects must be taken into consideration while designing employee management strategy.

1. **Share your vision with employees:** Think things through and know where you want to go and how you want to get there. Work with others to ensure a vision is followed through. Direct the actions and resources toward making it a reality.
2. **Communicate Effectively:** Encourage two-way communication between managers and non-managers and always be available to others. Strive to be succinct and specific about directions and instructions.
3. **Support and guide the employees:** Start by helping others clarify and achieve goals by identifying and removing any obstacles. Provide the resources (time, money, people, information and equipment) needed to complete the task. Don't reprimand others who make mistakes when taking a well-calculated risk. Instead, critique and analyze what went wrong and what went right. Next, work with the employee to correct the error. Decide whether another attempt at a previous goal is necessary, and offer encouragement if it is. During the entire process, provide appropriate feedback to ensure positive attitudes and actions.
4. **Create the atmosphere that encourages others to grow and thrive:** Know that no one individual possesses all of the answers. By appreciating the role that motivational techniques can play in improving

employee performance, you can work with others to increase organizational productivity and improve individual job satisfaction. Here are some tips on how to create a motivational atmosphere:

- ✚ Ask people their opinion rather than telling them yours.
  - ✚ When people ask you for solutions, have them come up with answers or options rather than telling them the best way to resolve a situation. Discuss the merits of their views and how to make them successful.
  - ✚ Provide positive feedback when employees voice their opinions. Offer suggestions or try to resolve challenges. Reinforcing behavior on your part will encourage more spontaneity, thinking and innovation on their part.
  - ✚ Ask questions, even when you don't know the answer. Ask employees challenging questions that encourage them to think, plan and react. Above all, encourage employees to challenge themselves.
  - ✚ Encourage employees to take appropriate risks. Support them when they do and also when the outcome of risk-taking isn't positive. In those cases, evaluate what went wrong and encourage other, more appropriate risks.
5. **Manage by walking around:** By getting out of the office and walking around the department, plant or building to interact with other employees, you get an opportunity to see people on the line doing daily tasks. Create an opportunity to informally chat with employees and learn something more about their work challenges and lives.
  6. **Organizational Culture that fosters learning:** Recognize that increased knowledge, more job experience and challenging different mind-sets increases worker satisfaction, motivation and productivity. Frequently encourage others to think outside-the-box and see issues from alternate perspectives.
  7. **Share business successes:** Know that positive outcomes are rarely the result of only one person's attempts or input. A self-confident entrepreneur shares the limelight and accolades with others who contributed to the final product or service.

## CONCLUSION

Management science lately, has realized the significance of human resource in the organization. Even in the present era of technology, the operation requires human resources. Therefore managing the most valuable assets, the employee is considered to be a vital management function from the point of view of sustainable development. Especially from the point of view of improving profitability in the times of economic crisis and in the era of cut throat competition, these contemporary HR practices can play a significant role if practiced effectively.

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**PERFORMANCE OF SELECTED INSURANCE STOCKS**

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**ABSTRACT**

*Today, the most suitable investment for the common man is to invest in a diversified, professionally managed basket of securities at a relatively low cost through Mutual Fund. The origin of mutual fund industry goes back to 1963, when UTI was established in India. Though the growth was slow in earlier stage, but it accelerated from the year 1987 when non-UTI players entered the industry. Indian mutual fund industry had seen a dramatic improvement, both qualitatively as well as quantitatively. Before, the monopoly of the market had seen an ending phase; the Assets under Management (AUM) were Rs. 6700 crore. The private sector entry to the fund family raised the AUM to Rs. 47000 crore in March 1993 and till March 2008; it reached the height of 505152 crore. The present study is an attempt to analyze the performance of five best mutual funds with the performance of market growth.*

*Keywords: Return, Risk, Growth, Portfolio, Mutual Fund*

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**INTRODUCTION**

A mutual fund, the buzzword today, is an investment that pools together money from a number of investors. It then uses professionals to manage and invest this money with the aim of achieving a return. It stands out as a lucrative investment option. The popularity of the mutual funds is due to the facilities they provide. The advantages of the mutual funds are diversification, professional management, regulatory oversight, liquidity, convenience, low cost, transparency, flexibility, choice of schemes, tax benefits and well regulated etc. The stock market is undergoing roller coaster ride and giving jitters to all concerned with it. In the first quarter of 2008, the stock market plummeted and later on showed some recovery, though due to many factors like crude oil prices, inflation etc nothing significant was achieved. Performance of the portfolio is tested well at the time of fall in the stock market because when the market is rising, it does not seem to be so important to study the comparative performance of the different Mutual Fund schemes. But the situation becomes quite demanding when the volatility is high in the market then only those fund managers who have actually done their job well, are able to achieve above average return. Mutual funds with different objectives also perform differently under different conditions. This study is an attempt in this direction to evaluate the relative performance of different mutual fund schemes in good as well as in bad times.

**RESEARCH METHODOLOGY**

We followed the tradition division of the Mutual Funds into debt, equity and balanced funds. Besides this customary division, we took one more category the ELSS funds because of its contemporary importance. Five best performing funds (Source: Outlook Money, April 2008 and [www.valueresearchonline.com](http://www.valueresearchonline.com)) in each category have been taken for the study. We have taken the three years monthly return of all the funds. The t-test of equal sample means of independent samples has been used to test whether their monthly returns are same within each category, between each category and with respect to the market index also (S&P CNX NIFTY has been taken as the market index). It has been done in two stages. In the first stage testing was done of their returns within each category and in the second stage inter-category tests were conducted for the comparative study of the different Mutual Funds. The data source was AMFI (Association of Mutual Funds in India) online database.

**WHAT IS NAV?**

The performance of a particular scheme of a mutual fund is denoted by Net Asset Value (NAV). Mutual funds invest the money collected from the investors in securities markets. In simple words, Net Asset Value is the market value of the securities held by the scheme. Since market value of securities changes every day, NAV of a scheme also varies on day to day basis. The NAV per unit is the market value of securities of a scheme divided by the total number of units of the scheme on any particular date. For example, if the market value of securities of a mutual fund scheme is Rs 200 lakhs and the mutual fund has issued 10 lakhs units of Rs. 10 each to the investors, then the NAV per unit of the fund is Rs.20. NAV is required to be disclosed by the mutual funds on a regular basis - daily or weekly - depending on the type of scheme.

**OBJECTIVES**

The main purpose of the study is to draw financial inferences about the stocks of selected insurance companies' i. e. LIC, HDFC Insurance and ICICI Pru. The study aims at examining the followings other objectives;

- To examine the growth and returns of equity stocks of selected companies of insurance sector.
- To enquire the risk and return relationship associated with shares of these companies.
- To analyze the liquidity position of selected insurance companies.

**RESEARCH METHODOLOGY**

**DATA:** For the study of the performance of mutual funds, we have taken five products from five popular schemes i.e., balanced funds, equity funds, debt funds, equity linked saving schemes and category-wise funds.

**Tools and Techniques:** The collected data of three equity stocks of insurance companies is processed and analyzed by various statistical and financial techniques viz, standard deviation, alpha beta, Sharpe performance index, and Treynor's index. The data have been analyzed by using MS Office Excel software.

**TREYNOR'S PERFORMANCE INDEX**

Treynor Performance Index, invented by Jack Treynor is also known as Treynor Composite Performance Measure or Treynor ratio. It is a measure of reward (or excess return) per unit of risk. The formula uses the portfolio's Beta as the unit of risk. Reward (or excess returns) is measured as the difference between the portfolio's return and the risk-free rate of return over a period. The higher the Treynor Performance Index, the better the portfolio's performance.

Treynor Performance Index = (Average Returns of Portfolio - Average Risk-Free Rate)/Beta

**SHARPE'S INDEX PERFORMANCE**

The Sharpe Ratio, invented by William Forsyth Sharpe is also known as the Sharpe Performance Index. The Sharpe Index Performance is a measure with which you may measure the performance of your portfolio for ranking of various funds. The Sharpe Index takes into consideration the risk of the portfolio. The index assigns the highest values to assets that have best risk-adjusted average rate of return. The Sharpe Index is measured as;

Sharpe = (Portfolio Return - Risk-Free Return) / Standard Deviation

**STANDARD DEVIATIONS**

The standard deviation  $\sigma$  of a probability distribution is defined as the square root of the variance  $\sigma^2$ ,

$$\sigma = \sqrt{\langle x^2 \rangle - \langle x \rangle^2}$$

where  $\mu = \bar{x} = \langle x \rangle$  is the mean,  $\mu_2 = \langle x^2 \rangle$  is the second raw moment, and  $\langle \cdot \rangle$  denotes an expectation value. The variance  $\sigma^2$  is therefore equal to the second central moment (i.e. moment about the mean).

**Beta:** Beta ( $\beta$ ) is a measure of the systematic risk arising from exposure to the stock market movements as opposed to idiosyncratic factors. The market portfolio of all investable assets has a beta of exactly 1. It measures the volatility or systematic risk of an individual scrip in comparison to the unsystematic risk of the entire market. B can be interpreted as follows:

$\beta = 1$  exactly as volatile as the market

$\beta > 1$  more volatile than the market

$\beta < 1 > 0$  less volatile than the market

**Alpha:** Alpha is a measure of active return on an investment against the performance of investment compared with a suitable market index. A positive alpha of 1.0 means the fund or stock has outperformed its benchmark index by 1 percent. A similar negative alpha of 1.0 would indicate an underperformance of 1 percent. A beta of less than 1 means that the security will be less volatile than the market.

**Data:** The study is based on the and quantitative secondary sources comprises of published reports of Government of India, RBI and annual reports of LIC for the time period from 1991 to 2008. The author has taken 3 Insurance companies following stratified sampling. Data sources had been www.nseindia.com.

The data for the study has been collected from the websites [www.gold.org](http://www.gold.org) for gold and [www.silverinstitute.org](http://www.silverinstitute.org) for silver. The daily data has been collected from January 01, 2001 to December 31, 2006 of the prices of both the commodities taken in the study. In November 2003, the gold futures started operating in India. Due to lag-effect on the prices, we have assumed that the impact of gold and silver future will be made effective from January 2004 instead of November 2003.

## RESULTS

The results of GARCH model has been summarized in table-1. Both the series (of Gold and Silver) do not have significant change after the introduction of derivatives. In Gold return series the coefficient of dummy variable is  $-.000002$  and it has been found to be insignificant as p-value is  $.67 (>=.05)$ . In Silver return series the coefficient of dummy variable is  $.00000155$  and this also has been found to be inefficient as p-value is  $.19 (>=.05)$ .

## LIMITATIONS OF THE STUDY

The following are important limitations of the study;

- Due to unavailability of individual data, the post reform data is undertaken for the purpose of study.
- The whole study is based on secondary data only.
- In the study risk and return analysis is not done.
- The study period limited from 1991 to 2008.

## CONCLUSION AND IMPLICATION

The study of impact of introduction of gold and silver derivatives on their prices can be concluded that the impact is not significant. In India the importance of gold and silver especially for ornaments is so strong that the impact on their prices can not be significant for merely introduction of their derivatives. Derivatives might have added as a new tool to hedge and buy gold and silver on delivery so that the adverse impact of price can be checked. The no impact of derivatives on the prices can also be attributed to reduction in the volatility due to stabilization which might have caused because of the introduction of the derivatives in these commodities. In toto, it can be concluded that reasons can not be ascertained with certainty in this study but it can be concluded with certainty that introduction of derivatives in gold and future have not made any impact on prices volatility in India.

The main implication of the finding of the study is that policy makers should not entertain this hypothesis that derivatives market of Gold and Silver has adversely impacted the spot markets in India. The results are in consonance with the study Pavabutr (2010), that introduction of Gold and Silver futures in India has increases the depth of the market and helps in price discovery in the spot market. The implication of this study has far reaching repercussions that in cases of the other commodities derivatives market as well nothing can be generalized regarding the impact of derivatives market on the spot market volatility.

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**DIGITAL TRANSFORMATION IN BANKING -THE FUTURE OF INDIAN BANKING**

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**ABSTRACT**

*Traditionally, banks and financial institutions working style were based on physical and documented form which was very complicated and time taking task to provide better services to their customers and it was not quite easily. At that time people chose their banks depending on how near the bank branch was to their residence. Now, in the current dynamic environment the situation has changed drastically. Now-a-days there are changes in technology, consumer expectations, and the amount of competition.*

*Today in India, there is changes takes place in providing banking services to their customers by the implementation of digitalization and reforms in banking sectors.*

*In this paper researcher has tried to explore the changes in service pattern of banking services in India based digital transformation with the help of various literature review and secondary data from various sources and finally researcher has concluded that, in current business environment banking services has changed drastically by using digitalization in their services which also escalates the customer satisfaction and also change in forthcoming behavior of customer.*

*Keywords: Digitalization, Innovation, Digital Transformation, New Technological Changes.*

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**INTRODUCTION**

In India, during the era of 1098s, due to increase in customer base and financial inclusion there was the need for computerization was felt in the banking sector, in order to improve the customer service, book-keeping and MIS reporting.

Keeping in view of above constraint in banking industry in India, in 1988, the Reserve Bank of India had set up a committee on computerization in banking sector and later on banks started the use of computer and Information Technology initially with the introduction of standalone PCs and migrated to Local Area Network (LAN) connectivity.

An afterword bank becomes more advanced and adopted the Core Banking platform and changed the working of banking system and process. This changes in system and banking process aggravated banks to increase the comfort feature to the customers as a promising step towards enhancing customer convenience through 24x7 banking services.

During 1991 in India economic reforms takes places and introduced LPG Policy by the government of India which rises competition due to entry of private banks. Several commercial banks started moving towards digital customer services to remain competitive and relevant in the race. Due to which major number of banks were benefitted in several ways by adopting newer technologies like E-banking, MICR based cheque processing, Electronic Funds transfer, Inter-connectivity among bank Branches and implementation of Automated Teller Machine in their banking process which resulted in reducing costs drastically and also beneficial for generate revenue through various channels.

So, the digital transformation in banking services in India has increased the number of customer base because of the convenience in 'Anywhere Banking' as well as digital transformation has reduced human error.

**WHAT IS DIGITAL TRANSFORMATION?**

Digital Transformation means changing in pattern of system, process and services by the use of new, fast and digital technology to solve problems with out delay and give better services.

To give the quick and useful banking services, it is the integration of digitalization into every area of banking which leads to essential changes in financial institutions to operate and deliver value to their customers. This digital transformation also helps banks to provide a more hassle-free and engaging customer experience to their customers.

**WHY IS A DIGITAL TRANSFORMATION REQUIRED FOR THE BANKING SECTOR?**

In current economic environment as well as in banking industry there is increased spending on infrastructure, technology, as well as digitalization in continuation of banking reforms. These are expected to provide impetus to banking sector as a whole. All these factors suggest that India's banking sector is set for robust growth.

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Digital Transformation consider as the changes in process of traditional banking to a digital world. It is considered as a very significant change in working style of banking services which is important to interact and satisfy customers. An effective digital transformation begins with an understanding of digital customer behavior, preferences, choices, and likes, dislikes, stated as well as unstated needs, aspirations etc. And this transformation leads to the major changes in the organizations, from product-centric to customer-centric view.

Digital transformation helps to know financial institutions that what the customers actually needed. They can formulate their financial services and offer according to customer requirements. New innovative technological developments allow banks to strengthen customer engagement with personalized offerings.

### **LITERATURE REVIEW**

**Merton, (1992)** has thrown light on financial innovations and expressed that financial innovation lower cost of capital, reduce financial risks, improve financial intermediation, and hence welfare enhancing. He concluded in his research with the positive prospects of financial and digital transformation and mentioned that digital transformation is helpful in ensuring smooth functioning and improves the overall efficiency of the system by minimizing cost and reducing risk.

**B. Janki (2002)** analyzed that how technology is affecting the employees' productivity. There is no doubt, in India particularly public sector banks will need to use technology to improve operating efficiency and customer services. The focus on technology will increase like never before to add value to customer services, develop new products, strengthen risk management etc. the study concludes that technology is the only tool to achieve their goals. Technological change and the advent of the internet are among the most dramatic and challenging areas of change for the sector.

**Arora (2003)** highlighted about the usefulness and importance of digital transformation in banking industry. He also focus on technology which has a crucial role in facilitating transactions in the banking sector and upgraded technology has resulted in the introduction of various new financial products and services by various banks in India.

**Merton and Bodie (2005)** have analyzed in their study that advancement in technology and digitalization are set to change the look of banking business. Digitalization has transformed the delivery channels by banks in retail banking. It has also impacted the banking industry and their customer base.

**Hua G. (2009)** investigates on online banking and its acceptance in China by conducting an experiment to investigate how users' perception about online banking is affected by the perceived ease of use of website and the privacy policy provided by the online banking website and observed the positive implications of his investigation.

**Timo Cziesla (2014)**, in his research focus on digital transformation in financial service industry. The author describes in his research about the importance of digital technologies for new business models, cause and customer centricity becomes increasingly important for financial service providers. He emphasized that digital transformation helps the service provider in the interaction between user and technology changes and sharing information in a digitalized form.

From the above mentioned reviews it has been observed and concluded that the banking industries itself adopted digital transformation and introduced various profitable schemes for their business to attract more numbers of customers. These has resulted their sustainability and keep their brand image even in the competitive environment. Further, digital transformation and improvement in technology is one of the important segments in banking sector and observed that major innovation has took place in this field in recent years.

**Vasiljeva,T.,& Lukanova,K.(2016)**. Has done the market research with aim to evaluate and compare the technologically driven process in the financial industry i.e. Fin Tech and the trend digital transformation of commercial banking, taking into consideration the influence of Fin Tech companies on traditional banking process and found that in current business scenario banks taking much initiative and making investment in the improvement of process delivering services to their customers and are most concerned with digitization & automation and always ready to adopt the digital transformation for providing better services to their customers to make strong market positions and to develop trust among his customers.

### **OBJECTIVE OF THE STUDY**

This paper aims to examine the various innovative instruments introduced by banks in recent times

- To study how digital transformation have contributed to the development of Indian banking

- To study the challenges faced by Indian banks in the changing scenario.

**RESEARCH METHODOLOGY**

This present study is descriptive as well as exploratory in nature. Secondary data form authentic sources like Report Published by Reserve bank of India, Reports published by NITI Aayog. Data for the minimum period of 10 years (2001-02 to 2011-12) have been considered and analyzed. and the facts produced by financial sectors has been used to draw meaningful conclusions about the role of digital transformation towards the development of Indian banking as well as opportunities and challenges for digital transformation in banking sector in India.

**PHASES OF DIGITAL TRANSFORMATION IN INDIAN BANKING SECTOR.**

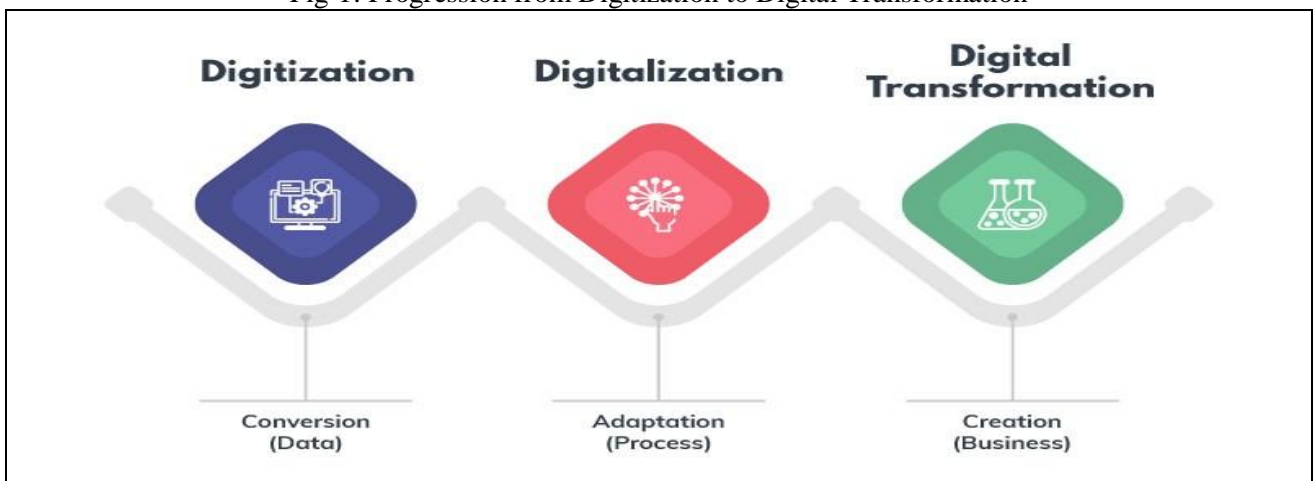
Phases of Digital Transformation and information technology (IT) in banking sector in India have had a major effect in banking and finance. IT-based innovations and digital transformation are considered and grouped into four distinct periods that are mentioned below in table 1:

**Table-1: Dimensions of Digital Transformation in Indian Banking Sector - (1960-2009)**

Impact on the Provision of Retail Finance	Use of Technology in the Organization			
	Early Adoption (1960-1980)	Specific Application (1980-1990)	Emergence (1990-2000)	Diffusion (2000-2009)
Innovation in Service Offering mortgages and pensions	Reduce inter-market price differentials	* Conversion from branch to bank relationships. * Automated bank statements. *Cheque guaranty cards.	*Growth of cross border payment. *ATM introduced	Supply of non-payment products like insurance, mortgages and pensions
Operational Function Innovation	Increased coordination between head office and branches	Reduce cost of labour intensive activities (i.e. clearing system).	*Automation of branch accounting. * Real time control begins	Growth of alternative distribution channels, such as phone banking and EFTPOS

Sources: Morris (1986) and Quintás (1991); Note: Designed by the researchers.

Fig-1: Progression from Digitization to Digital Transformation



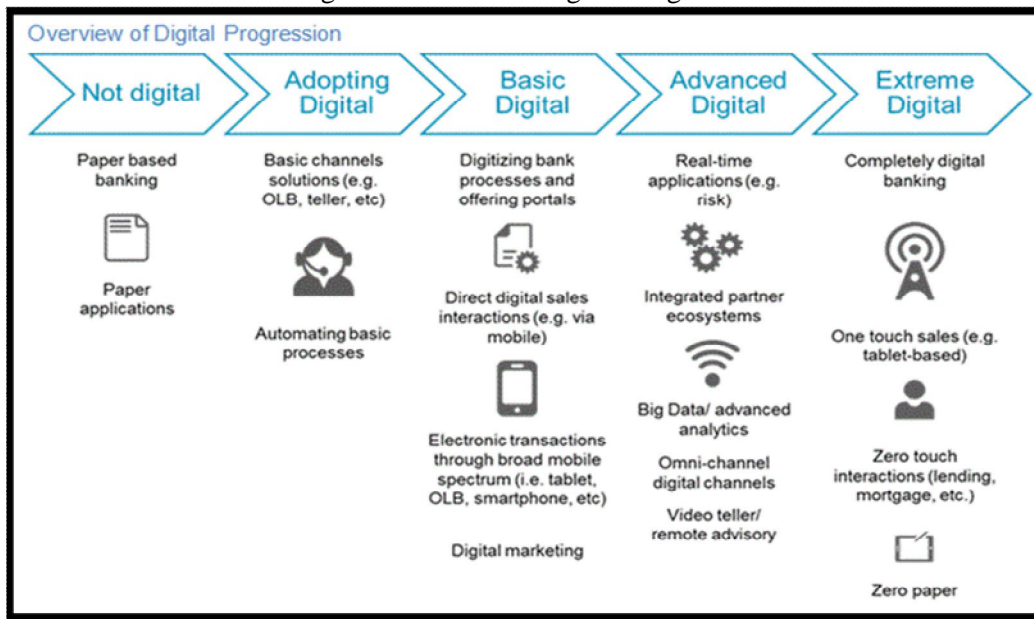
Source: <https://hackernoon.com/digital-transformation-in-finance-23faefa35a45>

The above figure shows that the primary aim of digital transformation in the banking industry has main objective of business creation and is to be more customer-centric.

Hence, it is essential to make a point that digital transformation is not a technology strategy but a business strategy that makes business swift and quick to respond to the market.



Fig-2: Over view of Digital Progression



Source: <https://www.celent.com/insights/522752202>

The above figure shows that Digital transformation shaping Indian banking industry in a big way i.e. from paper based banking to zero paper based banking process. They sped up the service and introduced the cash-on-the-go concept, thereby improving the customer experience. For the banks themselves, mobile applications and ATMs greatly reduced the cost of doing business.

However, there is a lot of legacy attached to the Indian banking industry. As banks evolve their businesses, they are focusing on creating separate analytical practices such as credit risk analytics, operations analytics and compliance analytics. This evolution led to the need for these siloed practices to communicate with each other.

With advances in technology and digital transformation, banks have been able to elevate customer experiences with mobile banking apps. These mobile solutions have made lives simpler and even enable users to monitor their accounts and pay bills at any time, from anywhere. We're witnessing convergence between digital payment options and smart devices as new services, which is replacing the traditional wallet.

From the above figure and discussion it is clear that Banks in India have witnessed a radical change from 'conventional banking to convenience banking'. Today, they are poised for 'digital banking' at a rapid pace.

#### MAJOR LANDMARKS BANKING TECHNOLOGY TRANSFORMATION IN INDIA

- 1986-88- MICR based cheque processing system was introduced first time.
- Late 1080's: Computerisation of branches of banks and introduce ledger posting machines (LPMs), advanced ledger posting machines (ALPMs), followed by stand alone computer systems.
- Late 1990's: Facilitating computerisation of Government business has now resulted in all branches handling Government business perform their functions using technology.
- Mid 1990's: The Institute for Development and Research in Banking Technology (IDRBT), Hyderabad was setup.
- In 1999: The commissioning of the Indian Financial Network as a Closed User Group based network for the exclusive use of the Banking sector with state-of-the-art safety and security was setup.
- In 2000: Commencement of Certification Authority (CA) functions of the IDRBT for ensuring that electronic banking transactions get the requisite legal protection under the Information Technology Act, 2000.
- Enabling IT based delivery channels which enhance customer service at banks, in areas such as cash delivery through shared Automated Teller Machines (ATMs), card based transaction settlements etc.
- Providing Guidelines for Internet Banking, which facilitated the banks to ensure that common minimum requirements relating to Internet Banking offerings were provided.

- Providing detailed specifications to banks on the configuration of systems relating to critical inter-bank payment system applications such as Real Time Gross Settlement (RTGS) System, Negotiated Dealing System (NDS), Centralized Funds Management System (CFMS) etc.;
- Implementation of the National Financial Switch (NFS) to ensure inter-connectivity of shared ATMs and to provide for funds settlement across various banks.
- Establishment of e-payment gateways for the benefit of customers and for facilitating e-commerce.
- Sharing of information through the secured internet website for the Centralized Data Based Management System-Internet (CDBMSI) project.

**TABLE – 1: NUMBER OF COMMERCIAL BANKS IN INDIA**

Years	1969*	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Number of commercial banks	89	301	298	294	291	288	222	183	175	170	169	167
a) Scheduled commercial banks	73	296	294	289	286	284	218	179	171	166	165	163
Of which RRBs	-	196	196	196	196	196	133	96	91	86	82	82
b) Non-scheduled commercial banks	16	5	4	5	5	4	4	4	4	4	4	4

**Table: 2 Position Of Households Availing Banking Services**

Households	As per Census 2001			As per Census 2011		
	Total number of households	Number of households availing banking services	Percent	Number of households availing banking services	Number	Percent
Rural	138,271,559	41,639,949	30.1	167,826,730	91,369,805	54.4
Urban	53,692,376	26,590,693	49.5	78,865,937	53,444,983	67.8
Total	191,963,935	68,230,642	35.5	246,692,667	144,814,788	58.7

**Table: 3 Positions Of Atms Deployed By Psbs And Scbs During The Last Five Years Number of ATMs of Public Sector Banks (PSBs):**

As on	Off-site ATMs	On-site ATMs	Total ATMs
31.03.2011*	20032	30201	50233
31.03.2012	24181	34012	58193
31.03.2013	29411	40241	69652
31.03.2014	44504	65920	110424
31.03.2015	58763	69902	128665
30.06.2015**	59245	71979	131224

\*The data pertains to ATMs deployed as on April 30, 2011

\*\* Data for June 2015 is provisional

Number of ATMs of **Scheduled Commercial Banks (SCBs):**

As on	Off-site ATMs	On-site ATMs	Total ATMs
31.03.2011*	34377	41268	75645
31.03.2012	48141	47545	95686

\*The data pertains to ATMs deployed as on April 30, 2011

\*\* Data for June 2015 is provisional

**Table: 5 Geographic Atm Penetrations Of Scbs In India**

End-March	Total number of ATMs	Geographic ATM penetration
2005	17642	5.4
2006	21147	6.4
2007	27088	8.2
2008	34789	10.6
2009	43651	13.3
2010	60153	18.3
2011	74505	22.6

Source: Compiled on the basis of RBI Data

As per data mentioned in above Table No. 5 shows geographic ATM penetration in India from year 2005 to 2011. The above table shows that that geographic ATM penetration score keeps on growing each and every years. In the year 2005, geographic ATM penetration score was 5.4 and in the year 2010, it was 18.3. There had been more than 4 fold increase in geographic ATM penetration in India over the period of last mentioned seven years.

Demographic branch and ATM penetrations are also considerably used as a proxy measure in the literature to measure digitalization and innovation in banking industry. Demographic branch penetration refers to number of bank branches per 1, 00,000 persons. Demographic ATM penetration refers to number of bank branches per 1,00,000 persons. Penetration of demographic bank branches and ATMs measure availability of banking branches and ATMS to the people in terms of accessibility. Higher demographic branch and ATM penetrations indicate easier access because of fewer potential clients per outlet and vice versa.

### RECENT TRENDS IN BANKING TECHNOLOGY

Banking technology as a confluence of several disparate disciplines such as finance (including risk management), information technology, computer science, communication technology, and marketing science. The tremendous influence of information and communication technologies on banking and its products, the quintessential role played by computer science helped in fulfilling banks' marketing objective of servicing customers better at less cost and thereby reaping more profits. Advanced statistics and computer science are used to measure, mitigate, and manage various risks associated with banks' business with its customers and other banks. The growing influence of customer relationship management and data mining in tackling various marketing-related problems and fraud detection problems in the banking industry is well documented.

#### 1. ATM

The automated teller machine is considered as one of the basic digital transformation in banking services it is considered as initial inclusion of technology by which customers are enables to withdraw their money 24 hours a day 7 days a week. ATMs can be used for cash customer withdrawal, payment of utility bills, funds transfer between accounts, deposit of cheques and cash into accounts, balance enquiry etc.

#### 2. ELECTRONIC PAYMENT SERVICES

After the successful inclusion of ATM in banking services, EPS considered as a revolutionary changes in banking services.

Electronic payments allow customers to pay for products or services electronically. Now a day's Consumers want convenience that's why Electronic Payment Services continues to grow in popularity.

**EPS source to reach a new audience.** E-commerce opens up your target market substantially. Because you don't have geographic or time limits, customers can access websites from anywhere and at any time and able to make payment for their product delivery.

**Improve purchasing efficiency.** EPS makes customers convenient which save time, and money both, because Customers don't have to wait in line to buy products or services when using an electronic payment system. This kind of purchasing efficiency can actually encourage consumers to buy from your business more often.

#### MOBILE BANKING

Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct financial transactions remotely using a mobile device such as a smartphone or tablet.

**IMPACT OF DIGITAL TRANSFORMATION IN BANKING**

Paradigm shift from traditional banking to customized banking is the service that can be delivered via computer and convenient banking i.e. "**Anytime, Anywhere banking**".

A customer can do his all account related activities just by logging into banks website through a user name and password. In this way he can enquire balance, status of cheques, perform funds transfers, order drafts, request issue of cheque books etc. Under the impact of digital transformation, the organization structure of the banks, the role of various functionaries and the approach of bank to customer are undergoing a perceptible change.

**I. CHANGES IN ORGANIZATION STRUCTURE AND ORIENTATION**

Digital transformation is a mean for increasing organizational productivity. IT, in fact, is much more than a series of new machines for organizational efficiency, since it brings about a new concept of self regulating system and principle in the organization.

Some of the usual change brought under the impact of digital transformation relating to organizational change and orientation are as follows:

- The need for faster information and better control has a direct impact on reducing the hierarchical tier system in the banks.
- The management processes and controlling mechanism characteristic also undergone a change.
- Managerial attitude also undergone a change under the impact of digital transformation
- The organizational change can facilitate the increased involvement of information system in the mainstream product offering in banking and financial sector.
- Integrated Internal accounting system: Bank's book-keeping is automated, fast and accurate. It saves time of staff for marketing and other work after the banking hours.
- Cross-selling of various financial products due to data mining and electronic marketing channels.

**II. IMPACT ON SERVICE QUALITY**

Banking which is primarily a service industry over the years, becoming more and more Digital transformation. The impact of digital transformation on service quality can be summarized as follow:

- By integration of digitalization in operations, new banks with limited network of branches become better place to compete with established banks.
- The digitalization is forcing the banks to develop a strategy for an online delivery system to broaden the customer relationship and to retain customer loyalty.
- In bank, the technology pushes the delivery of services out of the bank and the focus shift from cost reduction of market position.
- The advent of IT democratizes the information in the sense that bank customers, particularly the corporate customer, have access to the same real time information over which the bank has earlier control. This results in greater competition for banks.

**III. CHANGES IN CUSTOMER ASPIRATION**

Today customers are demanding fast, accurate and reliable services. This has improved considerably in the following ways:

- Increasing new banking channels: ATMs, Internet Banking, Tele-banking.
- Increasing customer convenience: 'Anywhere and anytime' banking and '24 X 7 day banking', home banking.
- Routine banking transactions are speedier, safe and secure as well as greater flexibility and convenience
- Integrated banking service with Inter-connectivity of branches..
- Banks can also handle non-banking services for their customers, e.g. payment of electricity/ telephone/ gas bills, insurance premium and receipt of pension/ interest/ dividends etc.

**IV. IMPACT ON PRIVACY AND CONFIDENTIALITY OF DATA:**

The concern for the misuse of the stored data becomes more profound when the stored data pertain to financial transaction of individuals. Customer's feels threatened about the inadequacy of privacy being maintained by banks with regard to their transaction and look at the computerized system with suspicion .Whereas when the

system crashes the content of user's profile get publically displayed at the terminal. Therefore data privacy assumes two significant dimensions: i.e. The authority to access data & The authority to us data for specified purpose.

#### **VI. IMPACT ON PAYMENT AND SETTLEMENT SYSTEM:**

IT has a positive impact on the payment and settlement system of the country. With some path-breaking initiatives implemented in this area, the "Electronification" of payment system has become the hall mark of the decade electronic based payments are superior to paper system in terms of traceability, efficiency, speed and safety. The introduction of the Real Time Gross Settlement (RTGS) system has resulted not only compliance with international standards but also paved the way for risk-free fund transfers settlement on a real time basis.

#### **V. ROLE OF TECHNOLOGY IN ACHIEVING COMPETITIVE ADVANTAGE IN BANKS**

For technology to drive the competitive advantage in a sustainable fashion, banks need to have clearly defined strategic goals and translate them into appropriate IT goals. To support the IT goals, banks need to invest in building architectures, infrastructure, processes, IT organizations and governance frameworks. This means,

- i. Ensure business benefits expected from IT are clearly identified
- ii. Policies and procedures around data quality, metadata management, disaster recovery, business continuity plan
- iii. Ensuring governance has enterprise-wide coverage
- iv. Ensuring core transactional applications are in place
- v. Having a plan and solution in place for Infrastructure management, and finally,
- vi. Having a clearly defined IT organization with appropriate skill sets.

#### **ISSUES OF DIGITAL TRANSFORMATION IN BANKING SERVICES**

Following are the important issues regarding digital transformation in banking:

**New business and new markets:** The Indian banking sector is at an exciting point of revolution. The opportunities to enter new business and new markets and to deliver higher levels of customer service are immense.

**Competition:** As the Indian banks are positioning it as financial service provider, banking businesses are getting redefined. Technology is unsettling the earlier business processes and customer behavior is also undergoing a change. These have enhanced the focus of competition.

**Competitive advantage:** Competitive advantage can be achieved by harnessing the potential of the employees by creating a positive work culture and enlisting the support of all the employees to achieve the organizational goals.

**Operational strategies:** Indian banks have adopted better operational strategies upgraded their skill to withstood challenges and have become adaptive to the changing environment.

**Data quality and consistency:** Banks and financial institutions look at common data standards and protocols so as to make the information systems truly interoperable and facilitate easy data flow. Information governance is emerging as a distinct discipline and this deserves much more attention.

**IT infrastructure:** Banks have accumulated lot of IT infrastructure over the years. They should actively explore consolidation to improve efficiency and minimize costs.

**IT governance:** IT governance is an important component of corporate governance and banks should put necessary processes and organizational structures to improve performance as well as compliance.

**IT Outsourcing:** Banks should develop in-house IT skills, broad IT management and leadership competencies. Banks have become increasingly dependent on third party IT service providers for all technology needs, to the extent that in many cases service providers are in control of the banks technology agenda.

**IT-Business:** IT-Business alignment needs special attention to derive better value from IT investments.

**Issue of HRM:** Training, development and retaining talented and committed staff is a major emerging challenge before the public sector banks. Today, employee performance review systems are neither objective nor transparent. They do not differentiate high performers, risk takers and innovators lot from amongst the total

staff. Time has come to measure the value of human capital and take urgent steps to ensure it to its optimum level.

**Lack of Actionable Planning:** Lack of planning or ineffective planning is very relevant to public sector banks. Though all the banks have established performance budgeting system and created MIS, it does not meet the management's present requirements. Basically, the entire planning process is deposit and credit oriented. To tackle this challenge actionable strategic plans which are systematically broken-up into annual plans and performance is strictly reviewed in terms of the targets and accountability is fixed for non-performance.

**Greater customer-Orientation:** Greater customer-orientation is the only way to retain customer loyalty and to stay ahead of competition. In a market-driven strategy of development, consumer preference is paramount. Gone are the days when customers come to the doors of the banks and now banks are required to chase the customers. Thus, only banks that are customer-centric and extremely focused on the needs of their clients will succeed and there is need to change the mindset of banks at all levels on this issue. In fact, they must realize that customer is the only profit center and all others are overheads. Identification of profitable customers, understanding their needs and preferences, improving the delivery systems and reducing the transaction costs for them should become important strategic issues for banks, to survive in the fiercely competitive environment. Enhancing the customer base, cross selling of products/services and strengthening the customer relationship management is the most important aspect.

**Security aspects of banking transactions:** Banks are developing alternative channels of delivery like ATM, Tele-banking, remote access, internet banking etc. The primary issues center on the following aspects of information security are:

- a) Authentication and identity of user: The act of verifying the identity of a user.
- b) Confidentiality: The information transmitted has not been intercepted or viewed by any other party in transit.
- c) Integrity: The information sent, received or stored has not been tampered with modified at any time.
- d) Non-repudiation: A particular transaction or action taking place, hold the tests of court of law.

**Fraud:** The kind of fraud that can happen in the emerging banking scenario are as follows:

- a) Mail Spoofing: Sending wrong information to bank customers as if it is from authentic bank sources.
- b) Web Spoofing: Diverting the customers of a bank to an exactly duplicated forged web site and impersonating those customers on real bank site.
- c) Attacking the user Computer: To take control of that machine.
- d) Attacking a Bank's Server: To take control of that machine.
- e) Media tapping: Recording the whole transactions of a bank, or customer etc .and replaying the same for their advantage.
- f) Denying Service: Though the server is available, making it not able to render service, by poisoning the network Infrastructure.

## **CONCLUSION**

The Indian Banking Industry is witnessing significant double digit growth. The sector is slowly emerging into a market and is becoming increasing, keeping with global trend and practices. Some of the key growth areas within the banking sector are private banking, wealth management and investment banking; they showed potential to become significant businesses in the coming years.

Technology in Indian banking has surely emerged from being "reactive" to "proactive" and the need of the hour is to enhance the foundation on which applications of future can safely stand if the bank is to lead through the next wave of growth in banking.

The banking sector in India has become tougher in term of development and economic growth the number of customers in the financial sector. In the next generation will play a vital role in further strengthening the banking sector. Nowadays, the new technology is sure that the future of banking will introduce more offers and services to the customers with the best banking product and innovations. Banking sector also increased the accessibility of a common person to bank for his productivity and requirements. The Indian banking sector has improved the terms and new Technology. The innovative banking technology changing reforms have changed

the face of Indian banking and financial sector. The banking system has improve the manifolds in terms of product and services, technology, banking system, trading facility etc. it is the evident that the banking system has grown in India to compare with other country. Future, the banks comprehends their customer and bank will be meeting their requirements. Indian Banking Sector provide better services with other developed banks.

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**OPPORTUNITIES AND CHALLENGES IN IMPLEMENTING HR ANALYTICS****Rimsha Ameer<sup>1</sup>, Shivanjali<sup>2</sup>, Prof. (Dr.) Jai Kishore Sharma<sup>3</sup> and Dr. Mitushi Singh<sup>4</sup>**Research Scholar<sup>1,2</sup>, Amity University, NoidaDirector<sup>3</sup>, Amity School of Business, Amity University, NoidaAssistant Professor<sup>4</sup>, Jaypee Institute of Information Technology, Noida**ABSTRACT**

*Purpose: Human Resource is of utmost importance for any organization. Apart from knowledge, it brings ability and technical skills, necessary for consistent growth of any organization. Traditionally, Human Resource assessment was carried out manually, which had a lot of complexity. However, with the arrival of technological advancement, the application of data analysis tools to HR data has given a different framework to analytics called as HR-analytics. Until now, HR analytics has only been implemented by the Western IT sector but with the changing scenario it is paving its way even into the Indian IT sector. This paper gives an overview of the HR-analytics in Indian IT sector and also tries to explore the development and application of HRA. It also brings out the challenges and opportunities of implementing HR Analytics in the Indian IT Sector.*

*Design/methodology/approach: The descriptive research design was used in this research. Also only secondary data has been used for the purpose of research.*

*Findings: The ambition among business leaders of improving Human Resource practice and business gains through HR analytics is increasing quickly in India. The study of papers explains that HR analytics in IT sector has been used more for the purpose of recruitment, retention, reducing attrition instead of revealing effect of HR analytics on overall outcomes of the organization. There is a need of developing new HR metrics for business decision-making process by the Indian companies. In addition to this, the most significant one is the lack of analytical talent available for its implementation.*

*Research limitations/implications: The research is only based on the available literature and restricted to the IT industry.*

*Practical implications: In recent times, HR analytics has been adopted by the Indian IT sector in order of making efficient HR decisions. As a result, HR-analytics in Indian IT sector has a great-potential but lacking in HR systems, teams and workforce skills. This calls for need to have rational HR professionals for strategic decision-making and to gain competitive advantage, as creative and innovative minds can produce the most excellent economies in the world.*

*Originality/value: Through this paper we have been able to identify the challenges that might be faced by organizations in the process of the application of HR analytics and also, give feasible solutions for those challenges. However, the theoretical analysis conducted has been confined to the organizations of the IT Sector.*

*Keywords: HR Analytics, IT Sector, Human Resource Management, Decision Making.*

No doubt about the fact that HRA is not a new area or research field to find out the scope of HRA but our study shows there are limited research work done by researcher on this area and very few work is done in India.

**INTRODUCTION**

Through globalization and changing situations the requirement for organizations to increase a supported upper hand has expanded tremendously (Martin, 2013). This issue influences organizations working in all businesses, since they are compelled to contend in a world, which offers both a development improvement of innovation on consistent schedule just as a questionable, unsteady and furthermore disordered working condition (Martin, 2013). The general viability of the company has become a focal perspective and it is considered as key criteria for getting by in the present economy (Mihalicz, 2012). Consequently, it is being expected that one of the primary motivations behind companies is to seek after an expanded adequacy inside their day by day activities, for example, expanding the viability with respect to dynamic procedures.

As per Boudreau and Ramstad (2002) the estimation of HRM is missing, which mirrors the missing riddle that forestalls HR to really gauge its results. When the activities of HR can be estimated, dynamic about the exercises of HR and its effect can be all the more significantly changed over to business tasks. Investigation itself nonetheless, isn't being considered as the main element for improving dynamic. Different angles, for example, the individual setting and experience for the given circumstance joined with a reality based methodology are considered as the correct blend for empowering a viable dynamic procedure (Coolen, 2015).



Expecting that all company actualizing HR Analytics face battle with this change of the HR plan, it is critical to investigate the difficulties confronted once began the execution just as the understanding strategy used to defeat these. Coolen (2015), distributed an article "The 10 brilliant standards of HR Analytics" which depicts the 10 principles or prerequisites HR needs to apply with the end goal for Analytics to work inside HR. Further, the HR master Luc Smeyers additionally distributed articles, for example, "Utilizing the 3 P's to begin with HR Analytics" (2014) to cultivate just as to encourage companies the beginning of actualizing HR Analytics. Marritt (2015) composed an article "2015 in People Analytics" tending to business as usual of HR Analytics inside organizations. The substance of these articles may be useful for making an inside and out comprehension of HR Analytics however by and by, these are one-sided and almost certain suggestions that are not objective or nuanced as they depend on understanding. As per the creators above, there is a significant publicity developing around HR Analytics and its vows to give bits of knowledge and building a reality based choice science. On the other hand, the inquiry "why only one out of every odd company doesn't have a full grown HRA work set up" is being tended to. What is so uncommon about the HR Analytics marvel that bits of knowledge can't be summed up from change the executives so as to gone to the difficulties? What is missing is an experimental study, which gives the necessary information dependent on proof. In this manner, right now we execute a subjective research that centers around the change with regards to actualizing HR Analytics so as to discover (1) the difficulties company face while actualizing HR Analytics and furthermore (2) their chances by executing HR Analytics. With the usage of investigation, this paper alludes to the way toward "limiting human inclination, making new bits of knowledge, helping workers, utilizing the bits of knowledge and making applicable information" (Coolen, 2014).

### **HR AND ANALYTICS**

Relating Analytics to HR, Davenport, Harris and Shapiro (2010, p.3) have expressed, "Systematic HR gathers or fragments information to pick up bits of knowledge into explicit divisions or capacities". Expanded commitment can be one of the significant results (Davenport, Harris and Shapiro, 2010). Mondore, Douthitt and Carson (2011, p.21) characterize HR Analytics "as showing the immediate effect of individuals information on significant business results". Thus, the creators stress the significance of the execution of HR Analytics as it exceptionally influences the general job HR keeps up in an company.

This paper utilizes the definition gave by Coolen (2014). His definition in all probability will in general portray the methodology of the execution procedure and the action part of HR Analytics by asserting that HR Analytics "is tied in with limiting human inclination, making new bits of knowledge, helping workers, utilizing the bits of knowledge and making pertinent information" required for improving dynamic procedures.

### **PROSPECTS OF HR ANALYTICS IN IT SECTOR**

HR study is nourishment for thought to HR experts, pros and researchers. The HR study is „the new normal“ for the early adopters“ human asset experts. While specialists remain reserved or need to have a hesitation before they go into the space of information driven HR. Study accomplished for human asset can grow best of group for winning the market. Including upto, this probably the best model "Billy Beane is the Oakland“s baseball trainer who by utilizing investigation and choosing players dependent on burdensome measurable counts of their exhibition, yield winning outcomes. This methodology of making a group prompted make record of the longest series of wins in significant alliance history" (Zettermeyer, 2014) shows that the studys for choosing best human for the organization can make an organization win right now world, opening a stage for HR investigation. In 2012, the cloud based instruments named "Kenexa", SAP and Oracle with Tableau has been found by IBM for ability the board to examine the voluminous huge information of human asset (Waxer, 2013). After such a large amount of expanding interest for studys of individuals and the expanding prospect for HR investigation, the acknowledgment level is low. Information features stunning answer by the HR administrators, just 75% of 3300 HR directors said that utilizing study is „important“ for vital choice and just 8% of them consider their business „strong“ right now (Human Capital Trends, 2015). Shockingly, after the incredible height in development and development of the huge information advertise, this rate reaction by HR experts shows that HR division is a long ways behind in utilizing systematic devices for serious dynamic. Salesforce (NYSE: CRM) assesses that study and Business Intelligence (BI) applications will upsurge their Total Addressable Market (TAM) by \$13 billion (Columbus, 2015). These appraisals are not characterizing especially about HR investigation yet giving a thought of totally scientific market. In particular, with regards to IT area, programming market covers 18% of HR systematic market in which the organization re-appropriated the logical instruments for information social occasion and investigation, while directly just 10.9% of organizations utilizing progressed explanatory answers for HR process (Accenture study, 2015). It shows that IT segment despite everything have long street to go for applying Big Data to their business. The (HR) investigation venture look no development than old fashioned enrollment process (Shinde and Misra (2017)). Investigation picking up

significance everywhere throughout the globe, so India need to think all the more mentally to pick up and continue in the IT showcase.

### **HR ANALYTICS: REASONS, GOALS AND REQUIREMENTS**

Husselid and Becker (2005) legitimize the usage of investigation by contending that first, the chances of innovation permits substantially more and quicker improvement in numerous business regions because of the way that authoritative dynamic procedures are significantly more information driven. Besides, the creators express that the effect of human capital on execution is an intricate framework which hampers settling on valuable choices and third, since different divisions, for example, Marketing and Finance, depend on study just as subjective information, HR needs to follow that follow (Huselid and Becker, 2005). As indicated by Davenport, Harris and Morison (2009), it is these days for the most extreme significance that companies settle on better choices, which depend on truth based investigation. Further, the creators fundamentally include that "in spite of the monstrous measures of information that organizations have at their fingerprints, scarcely any organizations realize how to settle on keen choices utilizing study; considerably less prevail at interfacing data with dynamic. Rather than putting together significant choices with respect to realities, such a large number of administrators depend on their instinct, their experience, narrative proof or out and out gut" (Davenport, Harris and Morison, 2009, p.4) According to the Rasmussen and Ulrich (2015, p. 2) "HR prevails by increasing the value of business choices that intercede and make business achievement not simply by approving existing information by and by". Through the usage of HR Analytics, extraordinary effect on dynamic will be accomplished: assessments will be supplanted with proof based choices, a scaffold between the board the scholarly community and practice will be fabricated, the effect of HR speculations will be organized and HRM will include an incentive through objectivity rather than experience/feeling (Rasmussen and Ulrich, 2015).

Further, the creators Davenport, Harris and Shapiro (2010, p.3) state, "Expository HR gathers or sections information to pick up experiences into explicit offices or capacities". Expanded commitment can be one of the significant results. In any case, the creators likewise contend that the usage of investigation requires the execution of explanatory hypothesis into training in any case. Doing as such, the necessities contain the need of specialists in numerous fields, to be specific in quantitative study just as in the psychometrics field, human asset the executives frameworks and procedures and work law (Davenport, Harris and Shapiro, 2010). Likewise, the creators underscore that expository HR empowers the reconciliation of individual execution information with HR forms measurements with the guarantee that companies can "misuse" their abilities all the more expressly, since any interest in human capital study bolsters the company and the assessment of both which following stages just as activities that must be attempted so as to accomplish an incredible effect on the general business execution. (Davenport, Harris and Shapiro, 2010) As an end, a few creators guarantee using study companies can set up a reality based dynamic procedure, which is being portrayed as a significant objective of actualizing HR Analytics. It is being accentuated that the execution of study inside the HR capacity can be considered as unavoidable since dynamic procedures inside the HR field needs to turn out to be more information driven.

### **RESEARCH METHODOLOGY**

#### **Data Collection**

In order to collect qualitative data, interviews with open-ended questions have been conducted. The companies to be interviewed were chosen beforehand. Through attending an HR consulting meeting together with ambassadors of other organizations aiming to receive more information of HR Analytics and its implementation, the author got in contact with several companies. Three companies that are trying to implement HR Analytics and also, were willing to participate in this study, have been chosen.

#### **Data Analysis**

Subjective information has been gathered and voice-recorded. The meetings have been completely translated by the questioner. Every interpretation has been sent to every respondent of the meeting so as to complete a part check to guarantee legitimacy just as reliability to set up a high level of believability (Lincoln and Guba, 1985). Every respondent was allowed to include or address proclamations or include extra input whenever wanted. Notwithstanding, with the exception of minor printed comment there no substance related input has been gotten. Further, so as to examine the transcripts of the meetings and to structure the enormous measure of the gathered information and to primer create interrelations, the investigative chain of command by Spencer, Ritchie and O'Conner (2003) has been utilized.

### **RESULTS**

In the accompanying area the aftereffects of this subjective research will be introduced. This table speaks to the six recognized classes of difficulties for every company. The six classes are (1) Lack of business/Management support and intrigue, which infers that the business doesn't perceive the need of a HR Analytics group and in

this manner, doesn't think about its advantages and included worth, (2) Data and Tools, which infers how to get the information, increasing a strong information on which apparatuses ought to be gained just as which strategies are appropriate for what sort of study procedures, (3) Legal and Compliance, (4), Roles, which infers which jobs are required so as to build up a HR Analytics group, (5) Training and aptitudes and (6) Communication, which suggests the absence of the correct correspondence between the various substances. The outcomes showed that practically every one of the three companies that took part in these studys referenced these six classes of difficulties, which they are confronting or have been confronting while executing HR Analytics inside their company. Accordingly this paper shows that while actualizing HR Analytics, the accompanying difficulties may show up and develop.

Further, once perceiving the difficulties that companies face while executing HR Analytics, it is additionally essential to research the activities that have been embraced so as to comprehend these difficulties. In this manner, some portion of the inquiries questions has additionally tended to the arrangements of the difficulties confronted. Table 2 condenses the referenced arrangements by the three companies. One needs to consider that Company B didn't confront class of difficulties with respect to "Legitimate and consistence" and "correspondence" and subsequently, doesn't give the comparing arrangement.

	<b>Lack of Business/ Management support and interest</b>	<b>Data &amp; Tools</b>	<b>Legal and Compliance</b>	<b>Roles</b>	<b>Training and skills</b>	<b>Communication</b>
<b>COMPANY A</b>	Lack of business expertise	There is no ideal data; cleaning the data is time-consuming; general knowledge about the different methods is necessary	Using HR data with respect to legal and compliance	Affinity for statistics is not enough; one needs data scientists	Lack of knowledge about what skills are needed; HR needs to develop technical skills as well	Lack of communication between HR, IT and the business
<b>COMPANY B</b>	Lack of interest from the business and support from management	How to get the data when having multiple data sources		What kind of roles are needed for a HRA team	Getting training in asking the right questions; finding a definition of HRA for themselves	-
<b>COMPANY C</b>	Lack of HR for asking the right questions (that will provide insights) and lack of business support	Facing multiple data sources and having no proper tool for making statistical predictive analytics	Using HR data with respect to legal and compliance	Figuring out what kind of roles are needed	Lack of statistical skills such as analytical skills	Not a solid communication between the business and the HR metrics and analytics team

**CHALLENGES AND SOLUTIONS OF THE THREE ORGANIZATIONS**

		<b>SOLUTIONS</b>		
		<b>COMPANY A</b>	<b>COMPANY B</b>	<b>COMPANY C</b>
<b>SET OF CATEGORIES OF CHALLENGES</b>	<b>Lack of Business/ Management support and interest</b>	Involve business experts of that particular field that you are working on every project; visit conferences and in order to receive information	Get Information from other organizations on how to gain business support; providing insights to upper management to make them see the opportunities and insights HRA can provide	Provide Information on how HRA can provide insight; get info from other organizations how they did it
	<b>Data &amp; Tools</b>	Tools: Get training in machine learning, data mining and algorithm and general knowledge on when to use which method	Implementing tools that can integrate the multiple data sources into one data source; gain knowledge about when which method should be used	Implementation of a big integrated platform for data
	<b>Legal and compliance</b>	Ask for approval and show the business results of every project to clients before starting. This strengthens the relationship and also builds up trust	x	Try to strictly stick to the policies
	<b>Roles</b>	Work with external partners that have the expertise and knowledge in order to guarantee high quality from day 1; develop an HRA team next to the HR team	Not allowed to tell; working with external partners to use their knowledge and expertise	To look for employees with an IT background and start as a project group first
	<b>Training &amp; Skills</b>	Offer training in 1) strategic workforce planning and 2) analytics; visit conferences	Offer training in order to ask the right questions	Offered training + collaboration with other business units such as marketing
	<b>Communication</b>	Need of the role "translator" that enables a solid communication between IT, HR and business	x	Position someone that functions as a "translator" with the ability to communicate between the three entities: HR, business and IT

The absence of business and the board support just as intrigue is significant and must be set up and is considered as one key angle. To start with, the attention to business and the administration should be built up so as to make a significant level of intrigue and backing. Second, so as to lead investigations that are useful for business and improving the general dynamic procedures, a significant level of premium will cultivate the formation of a popularity from the business site and empowering the presentation of studys that address business cases. Further, the HR people group needs to make a more profound comprehension of HR Analytics. The degree of enthusiasm of the HR people group towards HR Analytics contrasts. This is because of the way that the level of data and comprehension is constrained and should be broadened. Doing as such, presentation exercises and the improvement of preparing calendars can be executed. If there should be an occurrence of a difference in the PC framework, which may happen at a further advance of the execution of HR Analytics, required preparing must be advertised. Through ceaseless correspondence and sharing consequences of the results of the studys the degree of comprehension can be expanded, additional opportunities and chances of utilizing HR Analytics can be found. By building an online system the experiences of results can be inside mutual and imagined. Likewise, along these lines of introducing results will probably build the straightforwardness of working with HR information and in this way, increment trust just as responsibility. Also, the need of making a dream has been affirmed. Through expressing objectives and accomplishments for the forthcoming future, representatives will have a dream to move in the direction of to and are bound to keep up center during the excursion. Besides, it has been expressed that the profile of future HR professional may change. Valuable to the delicate abilities and the business foundation, the proclivity for information and factbased perspective are required and essential.

Inside a meeting with a worker working in the legitimate and consistence branch of organization C, an alternate point of view of utilizing HR information for investigation purposes could be found and will be introduced right now. The primary objective of the legitimate part of HR information is to guarantee the correct utilization of this extremely delicate information, remaining inside the lawful visitors of what is conceivable and forestalling

the abuse or maltreatment of this information. Doing as such, the organization itself, which works likewise in the protection part, settled system available inside for representatives that delineate the limitations as to the utilization with HR information. Doing as such, the HRA group utilizes the system as direction and embraces change, if vital. Further, week by week gatherings with the legitimate and consistence division guarantee a smooth and satisfactory counseling meeting about what is permitted and what is prohibited. Further, straightforwardness in each progression of utilizing HR information speaks to a key perspective and requires unique consideration just as mindfulness. One test that the HR Analytics group is confronting is staying aware of new guideline and limitations, as they will in general change and need alteration all the time. Further proposals include a productive method for cooperating between the legitimate and consistence division and the HR Analytics group. A legitimate readiness and prearrangement of the HR Analytics group already builds the productivity and viability of remaining inside the lawful limits and is considered as less tedious.

### **BENEFITS OF USING HR ANALYTICS IN STRATEGIES**

"HR is extremely quick to take advantage of the competency to foresee ability request, measure ability supply, and hold the representatives who envision HR-related results", says Elizabeth Craig, an study individual with Accenture Institute for High Performance (Trends Reshaping the Future of HR, 2014). Moving further, there is a living model named "Billy Beane", the Oakland Athletics' mentor for baseball shows that study can gain winning outcomes. He demonstrated this in 2002 by choosing players dependent on strenuous factual appraisals of their exhibition (Leigh Steinberg, 2015). This methodology of choosing group dependent on study drove his group to get one of the longest series of wins allied history. These models shows that how far HR investigation is likewise valuable for making techniques to increase upper hands. Regardless of the reality, this paper investigates the possibilities and Challenges of Human Resource Analytics looked by the said part; it likewise brings numerous advantages for the company as entire and explicitly for Indian IT industry as well. "HcACe" is human capital study utilized by TCS empowers very much coordinated choices, reality based arranged activities, and measures execution. All out expense of possession (TCO) is decreased by full utilization of HR Analytics. It additionally helps in concentrating on center and key capacities. Also, TCS refined the advantages as follows (TCS, 2012):

- Pay roll can be overseen by investigating the underlying driver and diminishes finance cost by lessening manual handling, check ricochets and so on.
- Diverse workforce is observed productively. The framework distinguish the dynamic highlights that expands worker yield, boosting representative confidence, wearing down causal study and patterns.
- Best ability is held. Top entertainers are distinguished in regards to work residency, pay scale, execution rating, and past wearing down rate.
- Effectiveness of preparing and advancement programs are examined. It surveys productivity of different inward and outside preparing and projects to manage aptitude holes.
- This HR framework helps in guaranteeing consistence with nearby, local and nation explicit consistence necessities.

### **THE FUTURE OF HR ANALYTICS**

HRA is a proof based methodology for improving individual and authoritative execution by settling on better choices on the employee's side of the business. In spite of the fact that it isn't its motivation to demonstrate the value of HR, examination can unquestionably upgrade the believability of the capacity and the calling by improving the viability of HR approaches and practices and adding to the upper hand of companys that create it as a center competency. An additional side-advantage is that HR examination can help uncover where exertion, asset and spending plans are not delivering their planned effects, and in this manner lessen the outstanding burden while improving the adequacy of HR. Accordingly, HR capacities and experts grow new abilities and capacities so they can successfully join forces with showcasing and account on HR investigation activities or hazard surrendering this undeniably significant and vital obligation to them. En route, HR experts should address moral quandaries. Do this is proactively by unmistakably depicting the standards for choosing when HR investigation will and won't be utilized. Unmistakably, HR investigation requires exertion to diminish these present difficulties confronting numerous companys. In any case, it can likewise bring about a rise of the status of the calling and its professionals by helping them to direct their companys in finding the sweet recognize—the convergence between increasingly gainful and progressively edified administration and advancement of workers. Acing this exertion would speak to a success win for businesses and representatives, and eventually the general public wherein we live and work.

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**DISCUSSION**

From our writing audit of HR Analytics we recommended that the execution of HR Analytics underpins making a choice science inside the HR capacity and along these lines, encourages dynamic procedures to be more certainty put together and less finished up with respect to hunches. Asking why undoubtedly few out of every odd company has an unblemished HR Analytics group set up as of now, this proposal expected that the execution procedure itself speaks to a change and uncovers difficulties that bother the operationalization of HR Analytics. An observational investigation to discover significant results has been considered as vital as the execution of HR Analytics may uncover difficulties that need further investigation. A subjective research configuration in type of meetings with a two individuals from a HR Analytics group of three companies that are recognized for actualizing HR Analytics have been led, together with one meeting with a HR consultant just as a representative from the lawful and consistence branch of organization C. The inquiries posed inside the meeting depend on Kotter's eight stages referenced in his work "Driving Change" (1995). Be that as it may, the inquiries didn't speak to precisely the eight stages as it is being expected that a change when all is said in done, right now the HR work, is anything but a direct procedure as a general rule, and in this way, the means are considered as one-sided. Or maybe, the inquiries speak to a more extensive arrangement of classifications to uncover any sort of difficulties. The main objective included discovering a potential arrangement of classes of difficulties that companies face while actualizing HR Analytics and furthermore, what activities have been attempted to understand these.

**LIMITATIONS**

Like all other researches, our study was also defied with restrictions also. We have had the option to make inferences on what sort of difficulties companies may confront while executing study and furthermore, give potential answers for those difficulties. Notwithstanding, the study directed is restricted to companies working in the financial business and the money related and protection part. In this way, the readiness of executing HR Analytics and the methodologies taken can vary from businesses to enterprises and subsequently sets the breaking point for generalizability. Further, inside the structure of this paper and because of time confinements, no meetings with workers outside the HR Analytics group have been led, aside from Company C. This impediment has the outcome that a little more extensive arrangement of classes outside the HR Analytics group could be distinguished and expounded. Since the execution of HR Analytics in any case, may influence the general business, more meetings with various offices are alluring.

**FUTURE RESEARCH**

The results of this study have made commitments to the hypothesis. Notwithstanding, different perspectives despite everything should be investigated and explored. One of the angles concerns the estimation of HR Analytics results. We were not really ready to quantify the results HR Analytics have on business matters, for example, its commitment to business dynamic procedures. This is because of the organization B and friends C were at their beginning stage of the usage of HR Analytics. At a later stage, be that as it may, this can be tended to. Organization A decided to quantify its commitment uniquely in contrast to expressed in principle. Their prosperity is estimated by the expanding request of their customers for the bits of knowledge that they are giving. How the effect and commitment of HR Analytics to the general business dynamic procedures can be estimated calls for additional future research. Likewise, further studys ought to be made on what the key achievement factors are while actualizing HR Analytics so as to ensure a significant level of progress. Without a doubt, the results of this paper add to this, yet be that as it may, so as to discover the key achievement markers further research is required.

**CONCLUSION**

Through globalization companies are compelled to experience changes and change consistently so as to build their viability, likewise in dynamic procedures. In all likelihood any change infers confronting difficulties and requires all the gatherings worried to adjust and bolster discovering arrangements. The execution of HR Analytics speak to such a change as it rebuilds the HR work through coordinating investigation as a vital part so as to empower the estimation of HR results and build up a choice science inside HR. This paper led a subjective research configuration in type of meetings with three companies working inside the banking and protection and budgetary part so as to discover an expansive arrangement of classifications of difficulties that HR is stood up to with while actualizing HR Analytics and furthermore, gives potential answers for each referenced class of difficulties. Despite the fact that there are proficient articles by HR experts giving suggestions and exhorts, these are not objective and significant. There aftereffects of this exploration depend on an exact study and speak to a significant commitment to the field of HR Analytics. Six classes of difficulties have been distinguished, to be specific absence of business backing, information and apparatuses, legitimate and consistence, jobs and correspondence. Companies may utilize these results so as to increase a top to bottom comprehension of HR

Analytics and extraordinarily, gain bits of knowledge on which sort of components must be viewed as when choosing to put a flawless HR Analytics group inside their HR office and company.

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**A STUDY ON SERVICE QUALITY GAPS IN INDIAN BANKS USING SERVQUAL MODEL IN DELHI/NCR**

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**ABSTRACT**

*Economic significance of services sector in India has been increasing considerably. The services sector has been the major contributor to India's GDP over the past few decades. It contributed around 49% to the country's GDP in the year 2018, up from 15% in 1950. The services sector grew at 7.5% in the post-liberalisation era (1991-2000), compared with a growth rate of 4.5% in the pre-liberalisation regime i.e. 1951-80. It provided employment to about 31% of workforce in 2018.*

*The banking sector has played a vital role in the economic development of India. Presently, the sector is fairly vast in terms of product range, supply and reach. In comparison to other banks located in their region, Indian banks generally have strong and transparent balance sheets with lesser bad debts. Meeting customer expectations is one of the major challenges currently faced by private and public sector banks in the country. That is why service quality is a key concern for the banking sector strategists. This paper attempts to measure the level of service quality offered by banks situated in the Delhi/NCR region. The empirical research uses primary data collected from retail customers of various banks through developing a questionnaire based on SERVQUAL model given by Parasuraman et al (1988). This paper also includes a comparative analysis of service quality levels offered by public and private sector banks. The research would help in finding out quality gap in services offered by banks using GAPS Model, while identifying areas of improvement in Indian banks.*

*Keywords: Service quality, Private Sector Banks, Public Sector banks, Banking Services, SERVQUAL, GAPS Model.*

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**INTRODUCTION**

The banking sector in India has experienced a lot changes in its functioning and structure after the liberalisation of the country in 1991. The competition in the sector has intensified a lot with the entry of a lot category of banks in the industry. There are a total of 182 banks, including 18 nationalised banks, 42 private sector banks, 33 state co-operative banks, 45 regional rural banks and 44 foreign banks operating in the country (RBI). Banks have been involved in developing customer-centric strategies for gaining sustainable competitive advantage. To grow and survive in the competitive environment, it is significant for banks to offer quality service to their customers. Studies suggest that offering quality service not only helps in generating customer satisfaction, but also a plays key role in acquiring new customers as well as retaining existing customer with the organisation. Numerous studies indicate that improving service quality also helps in generating positive word of mouth, enhancing corporate image, reducing costs and increasing profitability (Kang & James, 2004; Kumar et al., 2010).

A study given Parasuraman et al. (1988) was pioneer in the field of service quality research. The SERVQUAL study proposed a model to measure service quality using five different dimensions, namely, tangibility, reliability, responsiveness, assurance and empathy.

**LITERATURE REVIEW****SERVICES AND SERVICE QUALITY**

Most studies define service as activities, processes, deeds and interactions (Lovelock, 1991; Vargo and Lusch, 2004; Zeithaml and Bitner, 2003). Services have been defined as "a process or performance rather than a thing (Lovelock, 1991). Quality is seen as a significant variable in strategic planning and firms that have evolved as leaders in quality service often display a strong commitment towards quality and follow a corporate culture that encourages a strong focus on consumers and quality

Numerous definitions have been given to explain the term 'service quality'. A commonly used definition of service quality defines it as the extent to which a service meets customers' expectations or needs (Gronroos, 1982; Berry et al., 1985; Lewis and Mitchell, 1990; Dotchin and Oakland, 1994). Studies indicate that the service quality is the difference between the levels of customer expectations of service and perceived service. If expectations are higher than actual service performance, then perceived quality is less than satisfactory and it causes dissatisfaction in customers.



The term 'satisfaction' has been defined differently in consumer satisfaction literature and service quality literature. While expectations in the former literature are viewed as predictions made by the customer about the occurrence of positive or negative events during an upcoming transaction, in service literature expectation means what customers think a service should offer rather than what a service would offer (Oliver, 1981). According to the study, customers' past service experiences will affect their expectations of service levels.

### SERVICE QUALITY DIMENSIONS

Different studies have provided various service quality dimensions in their study. A study by Sasser et al. (1978) mentions three dimensions of service quality, namely material, facilities and personnel. Service quality dimension given by Lehtinen and Lehtinen (1982) again highlighted three service quality dimensions. The dimensions comprise corporate quality that deals with company's image or profile, physical quality that consists of physical aspects of the service, such as buildings, and interactive quality that comes from the interaction between front line staff and customers as well as from among customers.

In service quality studies, most widely cited dimensions are the ones proposed by Parasuraman et al. (1988). Initially, the study proposed 10 dimensions to mould the expectations and perceptions of consumers about the service delivered. The 10 dimensions were communication, credibility, courtesy, competence, tangibles, understanding/knowing the customer reliability, responsiveness, security and access. Later, the study condensed above 10 dimensions into the five below:

- **Tangibility:** It includes all the visible aspects of a service, such as equipment, appearance of staff and physical facilities.
- **Reliability:** Ability to deliver the promised service accurately and dependably.
- **Responsiveness:** Willingness of service providers to help customers and provide a quick service.
- **Assurance:** Ability of service providers to instill trust and confidence in customers
- **Empathy:** Ability of employees to connect to and understand customer's feeling.

### SERVICE QUALITY IN BANKING

A study by Narmadha et al. (2020) indicated that desired and perceived levels of service quality was higher in the Indian private banks, compared with public sector banks. The study found wider service gaps in case of public sector banks in India.

### CONCEPTUAL MODEL OF THE STUDY

The conceptual model of this study focuses on the service quality gap, which is the difference between the expected and perceived level of services. The measurement of service quality depends on 5 dimensions as given by SERVQUAL model of Parasuraman et al. (1985, 1988). According to the Gap Analysis and SERVQUAL models the service quality is a function of difference between perceived and expected levels of service (i.e. Perceived-Expected).

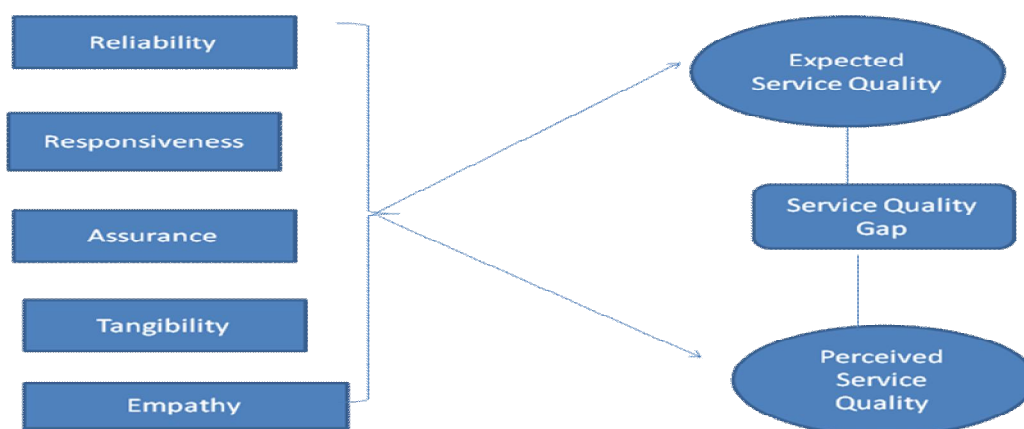


Figure 1: Conceptual Model of the Study

### OBJECTIVES OF THE STUDY

1. To measure the overall service quality at banks
2. To find out the quality gap between perceived and expected service in banks
3. To provide a comparative analysis of service quality in Indian public and private banks
4. To identify the areas of improvement in Indian banks.

## RESEARCH HYPOTHESES

- H1:** There is a service gap between customer perception and expectation about banking services in Delhi/NCR.
- H2:** There is a service gap between customer perception and expectation about public sector banking services in Delhi/NCR.
- H3:** There is a service gap between customer perception and expectation about private sector banking services in Delhi/NCR.
- H4:** There is a difference between the service quality levels offered by private and public sector banks in Delhi/NCR.
- H5:** There is a relationship between tangibility and overall service quality in banks in Delhi/NCR.
- H6:** There is a relationship between reliability and overall service quality in banks in Delhi/NCR.
- H7:** There is a relationship between responsiveness and overall service quality in banks in Delhi/NCR.
- H8:** There is a relationship between assurance and overall service quality in banks in Delhi/NCR.
- H9:** There is a relationship between empathy and overall service quality in banks in Delhi/NCR.

## METHODOLOGY

The data for the study has been collected from customers of prominent private and public sector banks located in the Delhi/NCR region. The research uses SERVQUAL questionnaire developed by **Parasuraman et al. (1988)** to measure the service quality levels offered by various banks. During the study, random sampling has been used to collect primary data from various customers. The questionnaire contains a total of 22 questions that are based five quality parameters namely reliability, assurance, tangibility, empathy and responsiveness. The study measures the gap between experienced and perceived quality levels of banking services. Gaps in service design and delivery any point would affect banks' relationships with their customers and would increase the churn rate of customers.

Total 180 respondents have been surveyed for the research using judgmental sampling. Each respondent was chosen on the basis of two criteria: i) A respondent should be a customer of banking services ii) A respondent shall belong to the region of Delhi/NCR. The study aims at finding out quality gap in services offered by banks using GAPS Model. The study also uses correlation to find out a relationship between perceived service quality levels and service quality gaps.

## FINDINGS AND RESULTS

The findings include a comparative analysis of service quality levels offered by public and private sector banks. The research helps in finding out quality gap in services offered by banks using GAPS Model, while identifying areas of improvement in Indian banks.

## GAP ANALYSIS

In the Gap Analysis model proposed by Parasuraman et al. (1985), service quality is a function of difference between perceived and expected levels of service. According to the results, the banking industry has an overall service gap of -0.68 that means expected level of service quality is higher than the perceived levels. As it is depicted by table 1, assurance gap (-0.22) is the lowest among banking customers, while reliability gap (-0.91) is the highest.

Banking Industry Gap	
Service Quality Dimension	Gap
Tangibility	-0.48
Reliability	-0.91
Responsiveness	-0.36
Assurance	-0.22
Empathy	-0.71
Overall Industry Gap	-0.68

**Table 1: Service Quality Gap of various dimensions in banking industry**

Comparative analysis of service quality gaps in public and private sector has been shown in table 2. Public sector bank has a gap of -0.57 in tangibility, which is higher than the gap in the private sector (-0.43) and also in the overall banking industry gap (-0.48). Reliability gap in the public sector banks is much wider (-1.39) than private sector (-0.70) and overall banking industry (-0.91). In case of responsiveness dimension, public sector

banks have a gap of -1.30, compared with a much smaller gap of -0.28 in private sector banks and -0.36 in the banking industry.

Among all the five 5 dimensions of service quality, assurance (-1.42) and empathy (-2) gap is maximum in case of public sector banks, which means public sector bank employees fail to instill trust and confidence in customers as well as they are unable to connect and understand customers’ point of views. While assurance is too high in case of public sector banks, it is almost negligible (-0.07) in case of private banks, which clearly indicates that private bank employees are highly successful in building trust and confidence among their customers. In case of private sector banks empathy gap is -0.64. The study shows that overall service gap in case of public sector banks is higher (-0.96), in comparison to private sector (-0.57) and overall industry (-0.68).

Service Quality Gap Analysis			
Tangibility Gap	Public Sector Bank	54	-0.57
	Private Sector Bank	126	-0.43
Reliability Gap	Public Sector Bank	54	-1.39
	Private Sector Bank	126	-0.70
Responsiveness Gap	Public Sector Bank	54	-1.30
	Private Sector Bank	126	-0.28
Assurance Gap	Public Sector Bank	54	-1.42
	Private Sector Bank	126	-0.07
Empathy Gap	Public Sector Bank	54	-2.00
	Private Sector Bank	126	-0.64
Overall Service Quality Gap	Public Sector Bank	54	-0.96
	Private Sector Bank	126	-0.57

Table 2: Service Quality Gap in Public and Private Sector Banks

Hence, the study fails to reject H1, H2 and H3 as there is a gap of -0.68 in overall banking industry, -0.96 in public sector banks and -0.57 in private sector banks.

The study fails to reject H4 as there is difference in overall service quality gap of public (-0.96) and private (-0.57).

**CORRELATION ANALYSIS**

The Pearson correlation shows large positive correlations between loyalty and all SERVQUAL dimensions. Among all service quality dimension, empathy has the largest correlation (0.775) with service quality, while tangibility has the lowest correlation (0.512) with service quality. The correlation between service quality and reliability, assurance and responsiveness is (0.666), (0.74) and (0.766), respectively.

The research fails to reject H5, H6, H7, H8 and H9 as there is a positive correlation between all service quality dimensions and service quality.

		Correlations	
		Perception	OverallGap
Perception	Pearson Correlation	1	.775**
	Sig. (2-tailed)		.000
	N	180	180
OverallGap	Pearson Correlation	.775**	1
	Sig. (2-tailed)	.000	
	N	180	180

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 3: Correlation between perceived service and overall service quality gap

**Correlations**

		pTangibility	OverallGap
pTangibility	Pearson Correlation	1	.512**
	Sig. (2-tailed)		.000
	N	180	180
OverallGap	Pearson Correlation	.512**	1
	Sig. (2-tailed)	.000	
	N	180	180

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 4: Correlation between tangibility and overall service quality gap**

**Correlations**

		pReliability	OverallGap
pReliability	Pearson Correlation	1	.666**
	Sig. (2-tailed)		.000
	N	180	180
OverallGap	Pearson Correlation	.666**	1
	Sig. (2-tailed)	.000	
	N	180	180

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 5: Correlation between reliability and overall service quality gap**

**Correlations**

		pResponsiveness	OverallGap
pResponsiveness	Pearson Correlation	1	.766**
	Sig. (2-tailed)		.000
	N	180	180
OverallGap	Pearson Correlation	.766**	1
	Sig. (2-tailed)	.000	
	N	180	180

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 6: Correlation between responsiveness and overall service quality gap**

**Correlations**

		pAssurance	OverallGap
pAssurance	Pearson Correlation	1	.741**
	Sig. (2-tailed)		.000
	N	180	180
OverallGap	Pearson Correlation	.741**	1
	Sig. (2-tailed)	.000	
	N	180	180

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 7: Correlation between assurance and overall service quality gap**

		Correlations	
		pEmpathy	OverallGap
pEmpathy	Pearson Correlation	1	.775**
	Sig. (2-tailed)		.000
	N	180	180
OverallGap	Pearson Correlation	.775**	1
	Sig. (2-tailed)	.000	
	N	180	180

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 8: Correlation between empathy and overall service quality gap**

**CONCLUSION**

In today’s competitive environment, it is crucial for the service industry to retain their customers for survival and growth. Service quality can be used as one of the strategic tools by service providers, particularly banks. As suggested by the study, public sector banks have a considerable gap in all service quality dimensions proposed by Parasuraman et al. (1988), especially in the areas of assurance and empathy. Despite of having a narrower gap in all dimensions than public sector banks, private banks still need to work upon the reliability factor. This implies that private banks shall work on delivering their promised service accurately and dependably to customers. The overall banking industry needs to work upon the reliability dimension, wherein it has the maximum gap in service quality.

**LIMITATIONS**

The study is based on service quality parameters given by Parasuraman et al. (1988), however there may be few more quality parameters affecting quality of banking services that have not considered during the study. The geographical area of the study is limited to Delhi/NCR region only. The results of the research may differ in other parts of the country.

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**APPENDIX**

**Group Statistics**

Bank	N	Mean	Std. Deviation	Std. Error Mean
eTangibility Public Sector Bank	54	5.3796	1.42810	.19434
Private Sector Bank	126	6.2579	.68260	.06081
pTangibility Public Sector Bank	54	4.8056	1.48154	.20161
Private Sector Bank	126	5.8254	1.01551	.09047

**Table 3: Mean and Standard Deviation of Tangibility in both sectors**

**Group Statistics**

Bank	N	Mean	Std. Deviation	Std. Error Mean
eReliability Public Sector Bank	54	6.1111	1.24259	.16909
Private Sector Bank	126	6.4444	.83480	.07437
pReliability Public Sector Bank	54	4.7259	1.46212	.19897
Private Sector Bank	126	5.7397	1.12663	.10037

**Table 4: Mean and Standard Deviation of Reliability in both sectors**

**Group Statistics**

Bank	N	Mean	Std. Deviation	Std. Error Mean
eResponsiveness Public Sector Bank	5	6.0500	1.59491	.71327
eResponsiveness Private Sector Bank	18	5.9722	.70653	.16653
pResponsiveness Public Sector Bank	54	4.7500	1.78833	.24336
pResponsiveness Private Sector Bank	126	5.6905	1.25834	.11210

**Table 4: Mean and Standard Deviation of Responsiveness in both sectors**

**Group Statistics**

Bank	N	Mean	Std. Deviation	Std. Error Mean
eAssurance Public Sector Bank	5	6.6500	.78262	.35000
eAssurance Private Sector Bank	18	6.0000	1.05719	.24918
pAssurance Public Sector Bank	54	5.2315	1.69895	.23120
pAssurance Private Sector Bank	126	5.9286	1.06154	.09457

**Table 5: Mean and Standard Deviation of Assurance in both sectors**

**Group Statistics**

Bank	N	Mean	Std. Deviation	Std. Error Mean
eEmpathy Public Sector Bank	5	6.6400	.40988	.18330
eEmpathy Private Sector Bank	18	5.9333	.82319	.19403
pEmpathy Public Sector Bank	54	4.6370	1.93403	.26319
pEmpathy Private Sector Bank	126	5.2921	1.31104	.11680

**Table 6: Mean and Standard Deviation of Empathy in both sectors**

**Group Statistics**

Bank	N	Mean	Std. Deviation	Std. Error Mean
Expectation Public Sector Bank	54	5.7727	1.05841	.14403
Expectation Private Sector Bank	126	6.2468	.71935	.06409
Perception Public Sector Bank	54	4.8165	1.51784	.20655
Perception Private Sector Bank	126	5.6789	1.03364	.09208

**Table 7: Mean and Standard Deviation of Overall Expected and Perceived Levels of Service Quality in both sectors**



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**MICRO FINANCE: A PROFITABLE NICHE AND SOCIAL INNOVATIVE BANKING SERVICE FOR INCLUSIVE GROWTH**

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**ABSTRACT**

*A new era of Microfinance has emerged as a profitable niche for the novel banking services. The foundation of microfinance institutions is to move forward for inclusive development and growth. Micro-finance is basically financial services and products of very small amount to the poor in rural, semi-urban or urban areas so as to provide the beneficiaries livelihood and also to enhance their standard of living. Based on the recommendations of task force, microfinance has now been recognized as the strategic instrument for poverty alleviation and job creation. Presently, Government of India, Reserve bank of India has their special focus on Financial Inclusion programme and recent strategy for Financial Inclusion by RBI is momentum to it. Hence, Government of India and private institutions all over the world, especially in developing economies are focusing on the new social innovation tool i.e., Micro finance. The present study intends to highlight the concept and its various delivery models. Paper also tries to establish the model where the relationship between growth and microfinance outreach has been estimated. Data has collected for the period of 18 years (2000-21018) where dependent variable is Growth (GDP) and explanatory variable is microfinance outreach (used as loans & advances by MFIs) and export and two control variables namely, inflation and real interest. Ordinary least square estimation model (OLS) has been established to study the whether there is significant relationship between the microfinance outreach and growth or not. All the necessary assumptions required for the OLS estimation has been checked. Further times series data has been checked for Stationarity using unit root test. Pair-wise Granger causality test is conducted to see the short run association between the variables. Finally, results revealed that microfinance outreach is the significant predictor of growth, whereas in short period Microfinance does not cause growth neither growth causes micro finance, i.e. there is interdependence.*

*Keywords: Self-Help Groups, RBI, Inclusive Growth, Social innovation.*

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**1. INTRODUCTION****1.1 Concept of Micro-Finance and Micro-Finance Institutions**

Financial inclusion is now become a top priority for the financial institutions in country. Recently, Reserve Bank of India has come up with the National Strategy for Financial Inclusion 2019 which focuses on the broad approaches for the inclusive financial system catering to the needs of the each and every sections of the society. Micro-Finance has emerged as the profitable niche market for the social innovation in the area of banking services so as to reach the inclusive growth (Thingalaya, Moodithaya & Shetty 2010).

Micro-Finance is the socio-developmental initiative whose aim is to assist the poor to work. It contains the bouquet of services which includes savings, credit, insurance, money transfers and counseling. Reserve Bank of India report 2011 defines MFI as “A company (other than company licensed under section 25 of the Companies Act, 1956) which provides financial services pre-dominantly to low-income borrowers with loans of small amounts, for short terms, on unsecured basis, mainly for income generating activities, repayment schedules which are more frequent than those normally stipulated by commercial banks and which further conforms to the regulations specified in that behalf.”

**2.2 Models of Micro-Finance****a) SHG Bank Linkage Model**

The SHG-Bank Linkage Model was originated by NABARD in 1992. Under this model, women in a village are encouraged to form a Self help Group (SHG) and members of the Group routinely contribute small savings to the Group. These savings which form an ever growing nucleus are lent by the group to members, and are later supplemented by loans provided by banks for income-generating activities and other purposes for sustainable livelihood promotion. The Group has weekly/monthly meetings at which new savings come in, and recoveries are made from members towards their loans from the SHGs, their federations, and banks. NABARD provides grants, training and capacity building assistance to Self Help Promoting Institutions (SHPI), which in turn acts as facilitators/ intermediaries for the formation and credit linkage of the SHGs. Under this programme, loans are provided to the SHGs with three different methodologies:

- **Model I: SHGs Formed and Financed by Banks:** In this model, banks itself involved in forming and nurturing the groups, opening their savings accounts and providing them bank loans.

- **Model II:** SHGs are formed by Agencies other than Banks, but Directly Financed by Banks: In this model, NGOs and other formal agencies in the field of microfinance facilitate organizing, forming and nurturing of SHGs and train them in thrift and credit management. The banks directly give loans to these SHGs.
- **Model III:** SHGs Financed by Banks Using Other Agencies as Financial Intermediaries: This is the model where the NGOs take on the additional role of financial intermediation along with the formation of group. In areas where the formal banking system faces constraints, the NGOs are encouraged to form groups and to approach a suitable bank for bulk loan assistance. This method is generally used by most of the NGOs having small financial base.

#### b) NBFC Model

Under the NBFC model, NBFCs encourage villagers to form Joint Liability Groups (JLG) and give loans to the individual members of the JLG. The individual loans are jointly and severally guaranteed by the other members of the Group. Many of the NBFCs operating this model started off as non-profit entities providing micro-credit and other services to the poor. However, as they found themselves unable to raise adequate resources for a rapid growth of the activity, they converted themselves into for-profit NBFCs. Others entered the field directly as for-profit NBFCs seeing this as a viable business proposition. Significant amount of private equity funds have consequently been attracted to this sector.

## 2. REVIEW OF LITERATURE

**NABARD (2019)** in its recent report presented the progress of Micro-Finance in India till 2018-19. Report mentions that as of March 2019, total number of SHGs linked savings with bank accounted for 23324.48 crore, total number of SHGs linked credit with banks are 58317 crore and total number of SHGs having outstanding loans are 87098 crore. **Joshi (2019)** segregated the social and economic factors which impact the involvement of women in self-help groups (SHGs) for their economic as well as social empowerment. The research has been conducted in Nainital district of Uttarakhand. (India) in 2018. The results show that factors including age, education, family type and distance from the market have a significant impact on the participation of women in SHGs. Also, there is a significant difference in both these values which suggests that the value of the empowerment index gets significantly increased after joining the SHGs. Another study assesses the role of Information and Communication Technologies (ICT) in poverty & inequality reduction by fostering financial inclusion, using panel dataset of sixty-two countries between 2001 and 2012 (**Mushtaq and Bruneau, 2019**). The results of the study revealed that ICT dimension when used as tools for financial inclusion accelerated growth and development. **Nair et al. (2018)** in their study assess the need for and feasibility of initiating micro-finance groups for the caregivers of persons with mental disability in a rural socio-economically backward community of Karnataka, India. Ten persons/households with mental illness (5.26 per cent) were identified in the community. Themes of financial needs, capacity of the caregiver, community resources, need for the microfinance self-help groups, informational needs, social support, burn out, and stigma elicited in the interview were depicted in the form of a conceptual framework to understand the inter-connectedness between the various themes. **Saravanan & Dash (2017)** in their study analyses large panel of Self-Help Group (SHG) financing across 30 Indian states over the period 2007 to 2015. The results thus suggest that financial inclusion drive in India has made financial institutions across the sectors to extend loan for small sector initiatives. **Fernandez et. al. (2018)** analyses the moderating effect the economic growth has on the relationship between the financial development and microfinance industry. Authors use the GMM-methodology for panel data. The results indicated that degree of economic growth affects the relationship between the financial sector development and microfinance activity. Under negative economic growth conditions, the development of the financial sector has a negative impact on the activity of the microfinance sector, but when economic growth is high, the development of the financial sector positively influences the activity of the micro finance sector. **Lopatta and Tchikov (2017)** investigated the under examined statistical causality of the relationship between microfinance and economic development for transnational dataset covering the period 1995 -2012. Study uses pair wise vector autoregressive (VAR) estimation models and the Granger approach. Study found bidirectional causal interactions between both MFIs' social and financial performance and economic development. Based on results important implications for microfinance theory, research and practice can be derived.

## 3. RESEARCH METHODOLOGY

### 3.1 Research Objective

a) The first objective of the present study is to develop the conceptual framework of Micro-finance and its various models. Study also throws light on the progress and development in Micro finance sector over the period of 2000 to 2018 i.e. 18 years.

b) The second objective of the study is to develop a model and to estimate a relationship between growth and outreach of microfinance in India.

c) The third objective to estimate the directional relationship between the growth and microfinance outreach in India.

### 3.2 Data Collection and Methodology

The present study uses the secondary data which is collected using various report and publication of NABARD, Reserve Bank of India and other concerned financial institutions.

#### a) Description of Variable

The present study is conducted by applying the Ordinary Least Square method using six variables based on previous studies and our research objective, a number of variables as potential determinants growth and microfinance outreach. The growth variable refers to the country's real GDP per capita and exports of goods & services as percentage of GDP. As the main focus of study is to examine the bi-directional theoretical relationship between microfinance and growth, we use 'loans and advances' disbursed by microfinance institutions for microfinance outreach. In addition to that we have three control variables - real interest rates, and inflation rate

To study the impact of CRR, RR and RRR on BSE Bankex one model is framed.

**Model 1** depicts Loans MFI, INF, EXP as independent variables and log GDP as dependent

Variable. The hypotheses behind the model are:

H01: Micro Finance Outreach does not have a significant impact on Growth.

H02: Inflation does not have a significant impact on Growth.

H03: Export does not have a significant impact on Growth.

H04: Real Interest rate does not have a significant impact on Growth

To prove the hypothesis, the regression equation behind the model is expressed as follows:

$$\text{Log GDP}_t = \beta_0 + \beta_1 \text{Loans MFI} + \beta_2 \text{INF} + \beta_3 \text{INT} + \beta_4 \text{EXP} + e$$

Where Log GDP = Real GDP Per Capita depicts Growth

Loans MFI = Micro Finance loans & Advances used as Micro-Finance Outreach

INF= Inflation (Control Variable)

EXP = Export

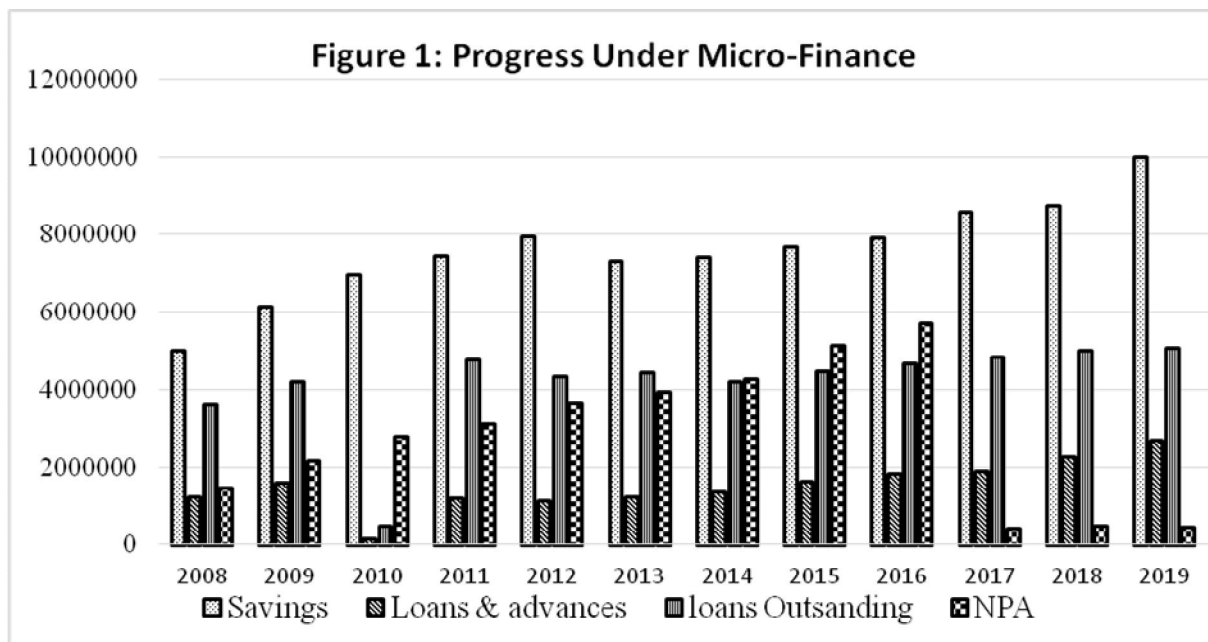
INT = Real Interest rate (Control Variable)

Data has been collected for the period 2000 to 2018, 18 years. A total of 18 observations were obtained. Simple OLS estimation has been use to find out the relationship between the growth and micro-finance outreach. Pair-wise Granger causality test has used to estimate the directional relationship among the variables. Since the numbers of observations are less to estimate the long run association among the variables, so the short run relationship has been estimated using the Pair-wise Granger causality test and OLS.

## 4. DATA ANALYSIS AND INTERPRETATION

### 4.1 Progress and Development under Micro-Finance

The pace at which micro finance has spread in India has been undoubtedly impressive. Taking data from NABARD, we find that the number of SHGs increased significantly from year 2008 to 2019. Similarly, there was a vast increase in the amount of loans and advances provided to the SHGs during this period. This includes credit provided by all three key institutions, namely commercial banks, Regional Rural Banks and cooperative banks. Of these, commercial banks have been instrumental in financing the largest number of SHGs till now



Source: Report on Status on Microfinance, NABARD

Notwithstanding its expansion, there are three observations that need to be made about the scale and spread of micro finance in India.

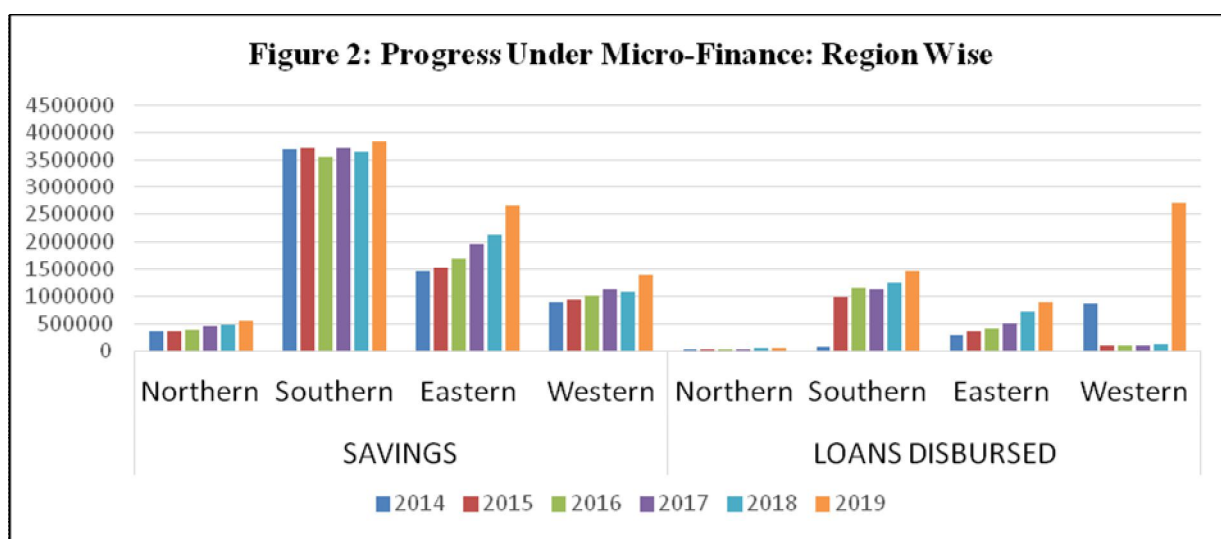
First, regarding its scale, micro finance still remains a minuscule portion of total bank credit in India. The micro finance provided by the two major institutions, namely commercial banks and RRBs constituted less than one per cent of the total credit from these institutions in 2007 and not only that credit to SHGs had an extremely small share in total credit and total loan accounts, we find that there was a falling trend in these shares during the five-year period (Table 1).

**Table 1: Percentage share of credit outstanding to SHGs in total credit outstanding of scheduled commercial banks (including RRBs)**

Year	Amount of credit o/s to SHG	total credit o/s	number of loan a/c for SHG	total loan a/c
2002	41321	2258529	290904	483280
2019	81156	10094629	5831762	166820470

Source: Branch Banking statistics, RBI

The second point regarding the regional spread of micro finance is that there has been a significant concentration of these institutions in the Southern region of the country (Figure-2)



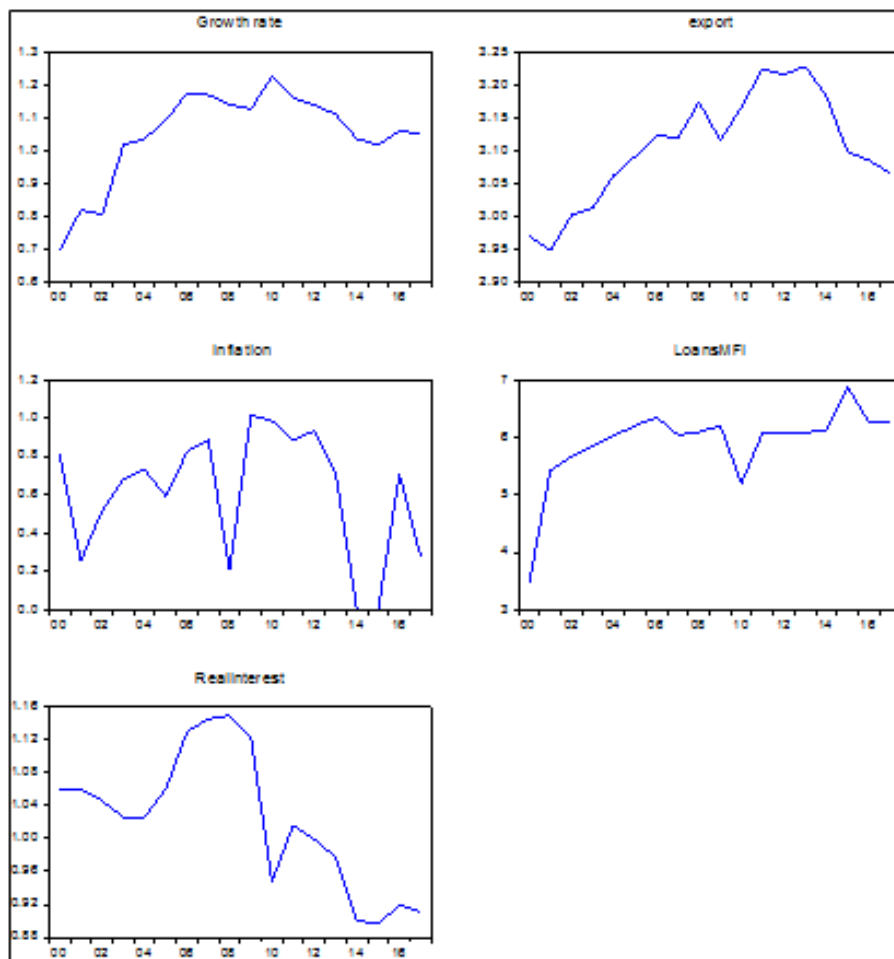
Source: NABARD

**4.2 Results of OLS and Pair-Wise Granger Causality Test**

The commonly used method to estimate the regression coefficients is the method of ordinary least squares (OLS). The model makes various assumptions such as linear parameters, regress or are non-stochastic, error terms are Homoscedastic, presence of no auto correlation and no-multicollinearity. Figure 3 shows the graphical representation of the variables used in the model. Table 3 presents the results of the OLS estimation.

The R square value for the model is 0.82 which depicts the model is robust. The value of  $R^2$  signifies that 82% variation in the dependent variable Growth is due to the variation in the independent variables. With regard to p-values, loans MFI (0.0064), Export (0.0021), Inflation (0.0461) and real interest rate (0.5699). The p-value or significance value depicts the whether the variable has significant relationship with the dependent variable or not. To avoid the problem of spurious regression, the natural log for each variable has been taken.

Figure 3: Graphical representation of the variables (Log GDP, Log Loans MFI, Log Inflation, Log Export and Log Real Interest)



**Table 3: Results of OLS Estimation**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.531502	0.735048	-3.443996	0.0044
LOANSMFI	0.092335	0.028433	3.247493	0.0064
EXPORT	0.909460	0.237955	3.821990	0.0021
INFLATION	0.133533	0.060573	2.204495	0.0461
REALINTEREST	0.126999	0.217865	0.582924	0.5699
R-squared	0.820717	Mean dependent var		1.049474
Adjusted R-squared	0.765553	S.D. dependent var		0.141326
S.E. of regression	0.068430	Akaike info criterion		-2.295889
Sum squared resid	0.060874	Schwarz criterion		-2.048563
Log likelihood	25.66300	Hannan-Quinn criter.		-2.261786
F-statistic	14.87776	Durbin-Watson stat		2.095541
Prob(F-statistic)	0.000089			

**INTERPRETATION**

- a) p-value for the Loans MFI is 0.0064 which is less than 5% level of significance. Hence null Hypothesis is rejected. It is thereby concluded that there is significant relationship between the Loans MFI and Growth.
- b) p-value for the EXPORT is 0.0021 which is less than 5% level of significance. Hence null Hypothesis is rejected. It is thereby concluded that there is significant relationship between the Export and Growth.
- c) p-value for the INFLATION is 0.0461 which is less than 5% level of significance. Hence null Hypothesis is rejected. It is thereby concluded that there is significant relationship between the INFLATION and Growth.
- d) p-value for the REAL INTEREST RATE is 0.5699 which is more than 5% level of significance. Hence null Hypothesis is accepted. It is thereby concluded that there is no significant relationship between the REAL INTEREST RATE and Growth.

Hence, here is it is concluded that Microfinance outreach has positive and significant relationship with the growth of the country. Approximately, 9% share in the momentum of the growth is shared by the microfinance institutions for the sample period. The Durbon-Watson Statistic value of 2.09 depicts that there is no auto-correlation present in the model. The VIF values for all variables are less than 2 which means that there is no auto-correlation in the model (table 4). Breusch-Pagan-Godfrey test is conducted to test the Heteroskedasticity in the model. The p-value 0.4514 which is insignificant (more than 5% level of significance) depicts that error terms are Homoscedastic in nature. Since the model meets all the underlying assumption for the OLS estimation which depicts towards the robustness of the model.

**Table 4: VIF Values (Multi-Collinearity)**

Variable	Coefficient Variance	Un-centered VIF	Centered VIF
EXPORT	0.056622	2100.039	1.485131
INFLATION	0.003669	6.740155	1.445593
LOANSMFI	0.000808	109.9015	1.483671
INTEREST	0.047465	191.8715	1.222978

**Table 5: Heteroskedasticity Test: Breusch-Pagan-Godfrey**

F-statistic	0.834535	Prob. F(4,13)	0.5270
Obs*R-squared	3.677684	Prob. Chi-Square(4)	0.4514
Scaled explained SS	2.375443	Prob. Chi-Square(4)	0.6671

**INTERPRETATION FOR THE PAIR-WISE GRANGER CAUSALITY TEST**

The first step in any econometric analysis is to check the stationarity of the variables. This is proved by unit root test and is conducted by applying the ADF. The unit root test is conducted on single variables with the main objective of checking whether the variables are co-integrated or not, because if the series are non-stationary then the results obtained will be spurious in nature (Samsu et al., 2008). The ADF Test results showed that GDP, loans MFI and Inflation are stationary at level whereas Export and Real Interest are stationary at first difference. So the respective variable is converted into first differenced for the causality test.

Pair-Wise granger causality test has been conducted so as to ascertain the directional relationship amongst the variables. The results obtained from the test are shown in table 6. It is clear that p-value is significant for the hypothesis “INFLATION does not Granger Cause EXPORT” and “INFLATION does not Granger Cause LOANSMFI” which is 0.004 and 0.0040 respectively (greater than 5% level of significance). Hence null hypothesis is rejected meaning thereby inflation cause loans MFI and export. In other words, there a short term association between the inflation and Micro finance outreach and inflation and export.

With regard to Micro-finance outreach explaining the growth, results suggest that there is no short run association between microfinance outreach and export. In other words, in short period of time micro-finance loans and advances does not influence much to the growth of country.

**Table 6: Pair Wise Granger Causality Test**

	Hypothesis	F-Statistic	Prob.
H0a	LOANSMFI does not Granger Cause GROWTH	0.96601	0.4107
H0b	EXPORT does not Granger Cause GROWTH	3.05830	0.0879
H0c	INFLATION does not Granger Cause GROWTH	2.95369	0.0940
H0d	REALINTEREST does not Granger Cause GROWTH	0.81649	0.4671
H0e	GROWTH does not Granger Cause LOANSMFI	0.18767	0.8315

## INTERPRETATION

Results above shows that significance value for all the hypothesis is more than 5% level of significance, hence it can be concluded here that micro-finance outreach does not cause growth. Meaning there by there is no short run association between the microfinance and growth, other control variable and growth.

From growth perspectives, p-value for H0e is 0.8315 which means null hypothesis will be accepted. Hence it is concluded that growth also does not causes micro-finance. Hence, here it is concluded that there is no bi-directional relationship between growth and micro-finance outreach in short run.

## 5. SUGGESTIONS, CONCLUSION AND WAY FORWARD

### 5.1 Way Forward for Micro-Finance in India

#### a) Affordable borrowing for one and all: Easy access to microcredit

Availability of credit is of paramount importance to retain and service microfinance customers. To encourage more borrowing among customers and stimulate the slowing Indian economy, RBI has increased the lending limit for low-income borrowers. This increase in lending limits, supported with new investment channels and changing business models, will support holistic growth of the microfinance sector.

#### b) Reaching the doorstep of every unbanked customer

Awareness on microcredit generation, access to income generation and facility to benefit from government schemes define the true reach of financial services. As microcredit disbursement evolves, it strives to reach the underserved segment not only through direct access to credit but also through access to innovative products that would improve the unbanked population's standard of living. Micro-finance players should look to provide financial products which are focused towards individual needs like crop insurance and equipment leasing facilities with repayment terms catered to specific agricultural growth and output cycles. Multiple government schemes, private and trust fund initiatives have been promoted to provide and measure the access of financial services to needy individuals.

#### c) Digital Micro-Finance

Customer-centric digital development, backed by data, will help in improving the entire lending journey from acquisition to servicing by enabling customer profile-based offerings and a transition towards paperless lending procedures. Considering the high penetration of mobile phones and affordable cost of internet services, micro lenders can adopt a mobility-based approach for regular interactions, monitoring repayments and offering value-added services to individual customers, specifically the ones with lower literacy rates. However, key design considerations should be taken into account to make technology easily accessible across all microfinance customer segments.

#### d) Leveraging women empowerment and mobilizing the entrepreneurial landscape

Holistic transformation of the microfinance sector can only be achieved by financially empowering women, who form a major portion of microfinance borrowers, and promoting a culture of entrepreneurship among them and enabling them to set up viable businesses. Women entrepreneurs lack access to traditional collateral and knowledge regarding the financial feasibility of a business, which increases their dependency on male members of the family. Besides, an unconscious socio-cultural bias often hinders women's access to financial services. This can be overcome through disaggregation of women-specific data for efficient analysis, leading to strengthened loan appraisal and disbursal processes.

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**INDUSTRY 4.0- MANAGEMENT CHALLENGES AND OPPORTUNITY: A CRITICAL REVIEW**

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**ABSTRACT**

*Digitization is the need for today's industry. It is defined as a new level of organization and control over the entire value chain of the life cycle of products; Industry 4.0 is still visionary but a genuine concept which includes Internet of Things, Industrial Internet, Smart Manufacturing and Cloud based Manufacturing. Automation is riding on the trend of fourth Industrial Revolution i.e. Digital Revolution. The world has witnessed three industrial revolutions before, which too have transformed the world in a radical way -- for people, for job families, for nations. The rapid pace of technological developments played a key role in the industrial revolutions. Therefore, managing with such revolution require a holistic approach that encompasses innovative and sustainable system solutions and not just technological ones. The new opportunities that will be generated through the next industrial wave are enormous at all levels. However, the readiness for such revolutionary conversion requires coupling the forces of technological innovation and social innovation under the sustainability umbrella. The objective of this paper is to provide an overview of Industry 4.0 and identifying the challenges and issues occurring with implementation the Industry 4.0 and to study the new trends and streams related to Industry 4.0.*

*Keywords: Industry 4.0, Digitization, Digital Revolution , Sustainability*

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**1. INTRODUCTION****1.1 What Is Industry 4.0?**

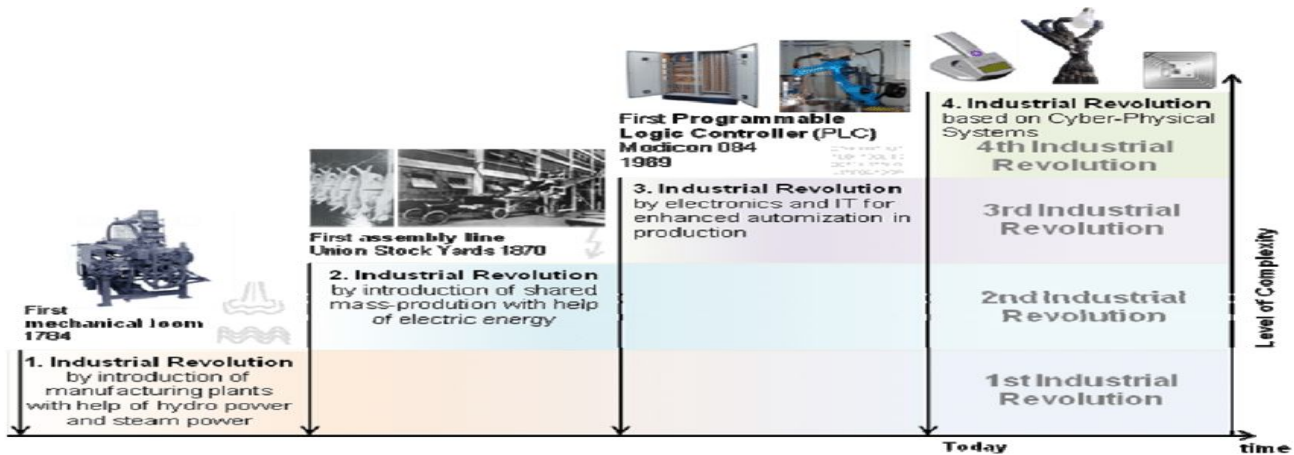
Chancellor Angela Merkel spoke glowingly of the concept in January 2015 at the World Economic Forum in Davos, calling 'Industry 4.0' the way to "deal quickly with the fusion of the online world and the world of business production."The 4<sup>th</sup> Industrial Revolution, seems to be changing the way businesses function and, by extension, the rewards by which they are forced to compete. The shift to real-time access to data and intelligence enabled by Industry 4.0 would fundamentally transform the way organizations conduct business. The combination of digital information from many different sources and locations can drive the physical act of doing business, in an enduring cycle.

During this cycle, real-time access to data and intelligence is driven by the constant and cyclical flow of data and actions between the physical and digital worlds. To realize this process, Industry 4.0 combines applicable physical and digital technologies, including analytics, robotics, high-performance computing, natural language processing, artificial intelligence and cognitive technologies, advanced materials, and augmented reality. Physical to digital which is Detention information from the physical world and create a digital record from physical data. Digital to digital means share information and uncover meaningful insights using advanced analytics, scenario analysis, and artificial intelligence. Digital to physical is apply algorithms to translate digital-world decisions to effective data, to spur action and change in the physical world

In the United States, the focus tends to be more on a holistic digital evolution, and many use the term digital supply network. In short, organizations should consider taking a holistic view of the 4<sup>th</sup> Industrial Revolution and the ways in which it changes business. It is about the ways in which those technologies are brought together, and how organizations can harness them to drive operations and growth.. Industry 4.0 can sense difficult, if not impossible, to cape one's arms around. This provides a focused point of view that illustrates what Industry 4.0 is, further we will see what sets it apart from previous technological revolutions, and how its relevant technologies can create value for organizations. Recent progressions in big data and analytics platforms means that systems can scan through the huge sets of data and produce insights that can be acted upon quickly.

**REVIEW LITERATURE****2.1. History of Industry Revolution**

The modern industry has seen great developments since its earliest reiteration at the beginning of the industrial revolution in the 18th century. The progress from Industry 1.0 was then rapid uphill climb leading upto the upcoming industrial era – Industry 4.0. Here we discuss the overview of this evolution.



The First Industrial Revolution was about coal, water and steam, bringing with it the steam engine and innovations that enabled the large scale manufacturing of goods and products, such as textiles. Its impact on civilization was immense. No longer centered around villages, farming and the local crafting of goods, people flocked to cities to work in factories under low wages and in terrible conditions.

The Second Industrial Revolution came about with the development of electricity and enabled mass production (think production lines).. The period was marked with an increased use of steel and eventually petroleum, and the harnessing of electric current. It allowed much of the progress of the first industrial revolution to move beyond cities and achieve scale across countries and continents.

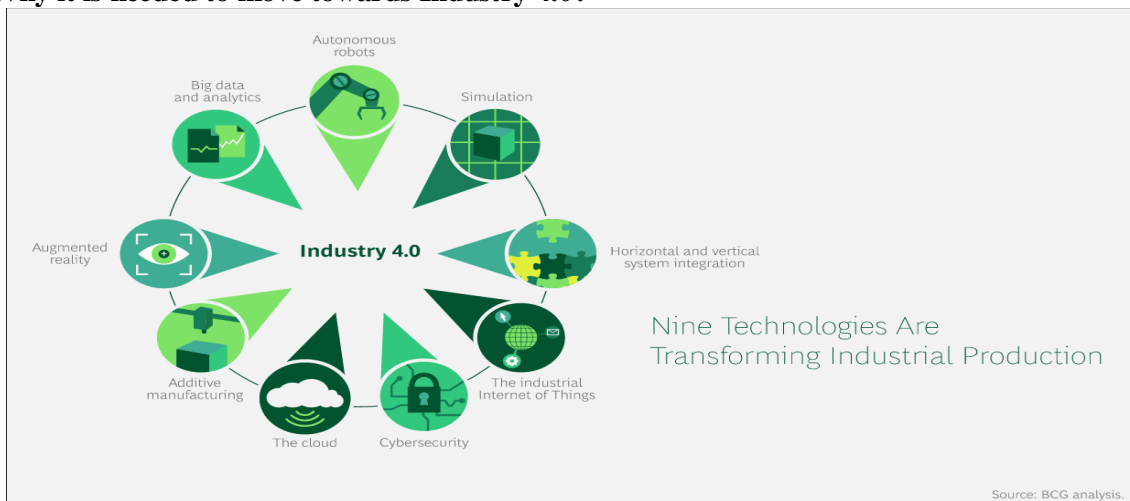
The Third Industrial Revolution was all about computers and digital systems empowered new ways of processing and sharing information. Transistors, microprocessors, robotics and automation – not to mention the internet and mass communications – would ultimately allow for the eventual in scale: globalization.

The Cyber Revolution which brings us to the 4th Industrial Revolution, also referred to as **Industry 4.0**. According to the World Economic Forum which coined the phrase, it is one of “cyber-physical systems” – that is, the merging of the capabilities of both human and machine. This is the era of artificial intelligence, genome editing, biometrics, renewable energy, 3D printing, autonomous vehicles and the Internet of Things.

In essence, it can be seen as a doubling down on revolutions one to three. Instead of technology being a thing we use, and which changes us, it will now be truly embedded into our lives – and our bodies – to affect great change. There is an argument that this is just an extension of the third revolution, but in many ways the speed and intent with which emergent technology is changing can be said to distinguish it from the adoption of computer technology.

As the technology-cost curve becomes steeper every day, more and more rapid technology disruptions will emerge at even lower costs and revolutionize the industrial ecosystem. Industry 4.0 is still at a nascent stage and the industries are still in the transition state of adoption of the new systems. Industries must adopt the new systems as fast as possible to stay relevant and profitable. Industry 4.0 is here and it is here to stay, at least for the next decade.

**2.2 Why it is needed to move towards Industry 4.0?**



In 2019, World Bank President, Jim Yong Kim was quoted saying that about two-thirds of jobs in the developing world may be lost to automation.. This reality will enable machines to take over human tasks!

In an article published in the Hindu Business Line, DD Mishra, Research Director at Gartner, “Ongoing reductions of headcount in outsourced businesses (due to automation) will eventually result in a scenario where (only) 30 percent of the workforce will remain relevant”. Tech analysts are predicting a tectonic shift in future workplace moving away from traditional pyramid to inverted pyramid, with a lean base at the bottom and heavy on the top.

Historically, as technology has evolved, it has made work simple and faster, needing fewer inputs and interventions. In the hierarchy of Simplicity Vs Complexity, the simplest, predictable, repeatable tasks are automated first. Anything, abstract and complex comes under the radar later. The organizations are managing on the tasks, which are the best candidates for mechanization while identifying the value-added, complex tasks, which can best be left for human workforce since this would require more advanced skills to automate.

### **2.2.1 New opportunities**

The world is hungry for new age human skills and jobs will undergo a wonderful transformation. Evidently, it creates urgency to reskill the low-end job employees to move up the value chain, so that they become part of Industry 4.0.

Skills like creative intelligence needing new ideas, creativity, fine arts and social intelligence like negotiation, persuasion, relationship-building, care coupled with domain knowledge. Moreover, it is predicted that the extent of automation would also depend upon other variables like demographic details, wage levels, per capita income of the countries.

### **2.2.2 New Success Stories**

A Smartphone was an overlooked of luxury and today, we can't think our lives without it – from purchasing to navigating, we are completely clueless without our Smartphone. Any jobs, skills, manufacturing related to Smartphone never existed some years ago and today, there are job profiles for Smartphone production (manufacturing industry), app developers (Android, iOS), aggregators (Uber, AirBnB), UI/UX (IT industry), social media campaigns (Creative industry) and impact of these developments can be seen in the entire ecosystem.

For example Uber, on one hand, has impacted the automobile industry adversely with lesser number of people opting for car ownership (to avoid loan liability, vehicle maintenance and fatigue from driving); on the other, has benefitted the society overall by mobilizing the general public through shared car services model and has transformed the lives of many drivers and their families by empowering them with higher living standards. Healthcare industry is betting high on robotic surgery for better accuracy, faster resolution, and lower costs.

Gaming apps are a big billion-dollar industry in itself and new age developers are scouted through hackathon challenges. The point is we are already in the thick of automation action and have new job skills workforce employed to build a future-proof solution for our clients. The Indian industry too is very quickly adapting to this reality and tech giants like Infosys is investing heavily in re-factoring talent through massive focus on training and re-skilling their employees to hit the ground running.

### **2.2.3 Challenges 4.0**

Change is an unavoidable necessity. It has transpired across generations to transform the way we perceive the world around us. Companies face formidable challenges in the adoption of these new technologies. To build and sustain a lead in the race to full implementation, they need to broaden and deepen their practical knowledge about digital technologies and the related use cases—and then develop and implement tailored digital manufacturing strategies.

### **2.2.4 Skilling 4.0**

An perceptive and interesting Talk Show on “Skilling your Workforce from 3.0 to 4.0” brought together some great industry practitioners at People Matters TechHR Singapore 2019.

**Workforce 4.0 is a label that people are trying to associate with the current workforce. Marked by extreme dynamism and volatility, this label is bringing in manifold changes in employee-employer relations and expectations.**

The combination of technology between physical, digital and biological is creating varying expectations on the ability of skills and knowledge required in the entire ecosystem. Hence, leaders must plan their learning and development strategies in advance to build a roadmap on up-skilling and re-skilling their current workforce.

### 2.2.5 Learning mindset

This refers to the ability to take learning from a feeling of a chore to a moment of delight. It is imperative for HR leaders to help in bringing a change in the perception of learning. The concept of 'learn – relearn – unlearn' needs to be built upon as a core value in an organization to imbibe a learning mindset in the organization. This is one of the major tasks to be taken into consideration for adopting the new phase of 4.0. After taking toxicity and learning mindset in consideration, an understanding of the starting and accelerating points of the skilling journey is equally critical.

the three to one formula need to be exercised to up-skill the workforce when it comes to addressing the skills gap issue - 'Use Tech to Scale, Speed and Sustain Learning', 'Make learning Accessible and Affordable' and 'Use Engagement as a tool to bring back a strong skill-will' attitude for the current workforce. Building a competitive workforce of the future requires right-skilling and organizations need to have a strategic plan for talent to make the shift. companies need to plan much ahead for the skills they need and also start building it internally.

### CONCLUSION

Automation is riding on the wave of fourth industrial revolution – digital revolution. The world has witnessed three industrial revolutions before, which too have transformed the world in a radical way -- for people, for job families, for nations, and for world-order. This industrial revolution will be no different and is expected to have similar aftermath resulting in world leapfrogging into Smart Industry (Industry 4.0) – eliminating certain job families and creating new ones.

Since the world is still grasping with new developments and its impact alongside the complexities it is displaying, there is a state of ambiguity resulting in fear of unknown. Yet some are still reveling in the past glory days of IT boom, not realizing the urgency to transform to navigate the next. Digital wave is here and the future is shaping up now. It presents a new world of opportunities to explore. Early adopters will shake off the fears, define the future and lead the way.

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**AN APPRAISAL OF THE CITIZEN'S DIGITAL EMPOWERMENT INITIATIVE OF NDA  
GOVERNMENT'S FIRST TENURE**

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**Nidhi Dwivedi**

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**ABSTRACT**

*The importance of internet has increased for everyone with the launch of a leading program – the “Digital India” by PM Narendra Modi of the Indian government. Digitalization is nothing but paper less information freely available at any time anywhere. The Digital India is a comprehensive vision consisting of an Umbrella Programme consisting of nine pillars. This platform has provided a robust bridge between the government departments and its masses for discharging government services digitally. It has also eased in doing business in the country. Ever since its inception, Digitalization has brought a drastic and widespread change in the functioning of the system. Digital payment has assisted in tracking illegal transactions as each transaction of the merchants gets recorded and in doing so black money circulation in the economy got restricted to a great extent. With digitization, government will be able to increase its revenue through sales tax in the time to follow to improve the financial health of the country. All these steps very rightly seem are following the famous saying of Abraham Lincoln which reads that the “Government of the people, by the people, for the people’ shall not perish from the earth.” Integrated digital transformation of services has started impacting the citizen’s life in a positive way. Implementation of “Digital India” programme is impossible without the use of Internet and cybercrimes are part and parcel of it. Therefore, providing round the clock safe, protected and secure cyber space (which is a very challenging job) is a need of the hour. This job is paramount agenda of the government and also the government is continuously making an endeavour to improve it.*

*Objective: To view the citizen’s digital empowerment initiative of the government.*

*Keywords: Challenges in digitalization, Digital India, e-Governance, e-Kranti, Internet, pillars of Digital India.*

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**1. CONTEXT BACKGROUND**

“The Internet” is the means which boost up the expansion of Digital Revolution. This not only helps speedy processing, it also saves (wastage of) paper and makes the use lot more convenient and hassle free. Lakhs of files with crores of valuable document/ pages will thus go digital, without use of paper. No fear of loss or mutilation of our own certificates, hence forth. Internet has plethora of benefits. Unlike the previous clumsy technology, present technology is paperless and is very efficient. Personal documents can be stored and saved in digital lockers that can be shared across departments.

Life without internet is impossible now-a-days. IT is one area where India has an edge over other leading countries of the world, in being the torch bearer. Digitalization is nothing but paper less information freely available at any time anywhere. It involves storing data or information by using computer technology/smart mobile phones. Digitalization or the Information Era started during 1980s and is ongoing. From computing to communication, entertainment to education, from printing documents to printing products, and, now to internet of things, it's been a long journey in a short time. According to Technopedia, the Digital Revolution is the transition of technology from electronic and mechanical devices to the digital technology which is available today. The Digital Revolution is also intermittently termed as ‘The Third Industrial Revolution’.

Ever since its inception, Digitalization has brought a drastic and widespread change in the functioning of the system. Its journey started with the launch of transistor in 1947. From 1950s and 1960s, computer application was limited to The government, military and other organizations. This decade has to its credit the creation of the World Wide Web. By the end of 1980 decade, computer was used for many jobs and the first cell phone was also introduced. Application of the Internet became a normal routine of most business operations by 1996 with the introduction of World Wide Web in 1992 and almost half of the American population started using internet. By the end of millennium i.e. 2000, even the developing world started tasting Digital Revolution, mobile phones, the Internet by using World Wide Web and the television also started receiving digital signals. By 2010, nearly 70 percent of the world's population started mobile communication and even this was replaced by tablet computers by 2015. This was about the journey of digitalization over the decades.

On 31st July 2015, Prime Minister Modi launched the flagship programme ‘Digital India’ with the vision to transform India into a digitally empowered society and knowledge economy. ‘Digital India’ has information or knowledge policy in the form of National Knowledge Commission, information Super Highway or National Knowledge Network (NKN). The pace at which people are taking to digital technology defies our stereotypes of age, education, language and income. India now has moved from e to m (mobile) governance technology.

Mobile governance has made the development a truly inclusive one and has put the governance within everyone's reach.

The dream of Digital India was impossible without the help of Internet which has relieved us of laborious way of getting any work done and is convenient, efficient as well as economical also. These days everything gets done by just click of a mouse which simplifies executing any activity. It's assisting people with multiple benefits like Transfer of money, Shopping (wide choices), Renew their ATM cards, Payment of bills, Suggesting/submitted ideas on 'my gov', Sharing & Publishing research papers internationally, learning on line courses, taking expert advice from international community for clearing doubts and so on. Benefits are endless. It is because of this platform only that a patient in a remote area in small village can be treated with the advice of AIMS doctors sitting in Delhi and farmers can be benefitted from the advice of experts of the prestigious agricultural institutions. Digital agriculture is empowering small-holder farmers in a few dozen villages in Telangana, Maharashtra and Madhya Pradesh with increase in their income through higher crop yield and greater price control by using technologies such as Artificial Intelligence (AI), Cloud Machine Learning, Satellite Imagery and advanced analytics. Through this platform government is trying its level best to transform lives of people in ways that was hard to imagine just a couple of decades ago. This platform is not confined to only national level, but, we can take the help of internet in extending to and receiving from any assistance whosoever is in need of it in any part of the world.

The Digital India is transformational in nature which will prepare India for a knowledge future and it works on IT (Indian Talent) + IT (Information Technology) = IT (India Tomorrow) ideology.

### **1.1 NINE PILLARS OF THE DIGITAL INDIA**

The Digital India is a comprehensive vision consisting of an Umbrella Programme that contains a large number of ideas and thoughts of many departments. Each individual element of this programme stands on its own, but at the same time also is a part of the larger goal. It aims to provide Government services like infrastructure as a Core Utility and governance & services on demand to every citizen electronically. It also aims at digitally empowering the citizens by making the resources available on the Cloud. The nine pillars which extend support to these three key area include: broadband highway, universal accessibility, public Internet connection, e-Governance, e-Kranti, information for all, electronics manufacturing, IT for jobs and early harvest program. Development of UMANG App is an endeavour in the direction of providing different services under one umbrella. These nine pillars are summed up as follows: -

#### **1.1.1 Broadband highway**

This covers three sub components, namely Broadband for All - Rural, Broadband for All - Urban and National Information Infrastructure (NII) to be done by the Department of Telecommunications (DeitY). Coverage in a phased manner of putting nationwide optical fiber network (NOFN) in all 2.5 lakh gram panchayats in the country was planned during the launch in 2015 which was to be finished in FY 2016-17 with a complete approximated price of Rs 20,100 crore. NII aims at integrating all ICT infrastructure components such as State Wide Area Network (SWANs), National Knowledge Network (NKN), nationwide optical fiber network (NOFN), Government User Network (GUN) and the MeghRaj (GI) Cloud. NII will have provision for horizontal connectivity to 100, 50, 20 and 5 government offices/ service outlets at state, district, block and Panchayat levels respectively.

#### **1.1.2 Universal access**

Mobile phone access in around 55,619 uncovered villages by 2018 and to set up 1,836 mobile towers in the nation by the Department of Telecommunications (DeitY) was ensured. The work of providing mobile coverage to uncovered villages of North East has been initiated under the comprehensive development plan and the remaining uncovered villages would be covered in a phased manner.

#### **1.1.3 Public Internet access**

The two sub components of Public Internet Access Programme are Common Services Centres (CSCs) and Post Offices as multi-service centres. Under this pillar people were ensured at least one common services center (CSC) in 2.5 Lakhs of Gram Panchayats for maximizing delivery of e-Services to the citizens by the Department of Telecommunications. There was even a provision of transforming in the next two decades 1.5 lakh post offices into a multi-service centers by the Department of Posts.

#### **1.1.4 e-Governance**

Business procedure re-engineering was anticipated to enhance procedures and service distribution. Services were planned to be linked to Integrated platforms of The Unique Identification Authority of India (UIDAI), payment gateway and mobile platform in order to have least & efficient governance and also to facilitate

integrated and interoperable service delivery to citizens and businesses. Even general public complaint redressal was to be computerized end to end through automated government departments and agencies workflow.

Government is doing its best to initiate measures of e-governance to help people. For the ease of farmers Government has started electronic national agriculture market (e-NAM) for inter-state trade on its platform very lately, thus facilitating traders of one state to buy agricultural produce of a different state. Many states like Telangana, Andhra Pradesh, Haryana, Chhattisgarh, Madhya Pradesh, Uttar Pradesh and Uttarakhand have allowed movement of agriculture and horticulture produce within a state under inter-mandi trade platform. Farmers can make use of these for better market access, more buyers, realise higher prices for their produce and can benefit themselves.

### **1.1.5 e-Kranti**

The national level e-Governance programme that was initiated in May 18, 2006 was named as National e-Governance Plan (NeGP) and had 27 Mission Mode Projects (MMPs). 4 more mission mode projects namely 'Education', 'Health', 'Posts' and 'Public Distribution System' were added to NeGP portfolio in 2011. In order to overcome the shortcomings of National e-Governance Plan, Government of India launched 'e-Kranti' programme that aimed for electronic, mobile and good delivery of all types of services like education, health, farming, rights and financial addition. Education under it were to cover digital knowledge program and MOOC (massive online open courses) and installing free Wi-Fi in 250,000 educational institutions. The internet assessment, medical records, medicine supply and pan India exchange for individual details by 2015 and full dental coverage in 3 years were planned to get covered under healthcare. Farming were to cover on line real-time price details, cash loan and relief payment with mobile banking. All projects including e-Governance projects have to follow main principles namely 'Transformation, Integrated Services, Cloud by Default, ICT Infrastructure on Demand, Mobile First, Language Localization, Fast Tracking Approvals, Security and Electronic Data Preservation and Mandating Standards and Protocols of e-Kranti.

Now, the portfolio of (MMPs) has increased from 31 to 44 MMPs. Many new social sector projects namely Women and Child Development, Social Benefits, Financial Inclusion, Urban Governance, eBhasha etc have been added as new MMPs under e-Kranti.

### **1.1.6 Global Information**

Under this heading, things like Open Data platform and online hosting of information & documents, proactive engagement through social media and web based platforms like MyGov were emphasized. It will facilitate open and easy access to all information. The innovative platform (myGov.in) which is also believed to be the "world's largest platform in citizen engagement in policy making" was initiated by our Prime Minister Mr. Narendra Modi on 26 July 2014. The greatest benefit of it is that once registered on website [MyGov.in], citizens can use it for sharing their ideas, suggestions with the government enabling them to directly participate towards Good Governance. It also includes online messaging through SMS's and mails on special occasions and events.

### **1.1.7 Electronics manufacturing**

Under this heading the Centre had planned to consolidate many areas like taxes, rewards, financial systems of range and offering cost benefits to local producers to execute the plots of set top boxes, VSAT, mobile, consumer electronics, technology, medical electronic devices, intelligent energy meters, Smart cards and micro ATMs. Demand for electronic goods is increasing incessantly and the Indian government is taking several steps in meeting those demand by promoting manufacturing and investment in this sector, which puts India high on the list of potential places to invest.

### **1.1.8 IT Training for Jobs**

This pillar focuses on providing training to the youth in the skills required for availing employment opportunities in the IT/ITES sector. IT sector has great scope of employment generation and absorbing educated unemployed youths. In order to reap the cost benefits of small place and to have more regional balance, the establishment of BPOs in the North Eastern Region through appropriate incentives were proposed. The government had planned to prepare one crore learners from small towns and village through training for IT industry. There are eight components with specific scope of activities under this pillar. Plans were also to exercise 300,000 assistance distribution providers in 2 years to run practical companies offering IT services and telecoms companies to train 500,000 rural workers in 5 years. Now, Google's "Internet Saathi" programme that was launched in July 2015 has moved way forward covering almost 17 states in bridging the digital gender divide and empowering women in rural India through digital literacy. It's training has enabled rural woman to upgrade their social and economic status. While releasing Vision document for North East 'Digital North East:



Vision 2022' during the inauguration of a new BPO at world's largest river island Majul, the Union electronics and IT minister said the digital power of North East villages will get strengthened by setting up a cloud hub in Guwahati. It will help in transforming the lives of people and enhance the ease of living through leveraging digital technologies to the masses of that area.

### **1.1.9 Early Harvest**

As the name suggests, 'Early Harvest' programme basically consists of those projects which are to be implemented within short timeline. Projects under this heading cover areas of IT Platform for Messages developed by MeitY, Government Greetings to be e-Greetings- the crowd sourcing of which has been ensured through the MyGov platform, Biometric attendance - The government had intended to implement Aadhar driven Biometric Attendance System in all central government offices of Delhi so that the concerned stakeholders can keep an eye on online recording of attendance through a web based application software system., to provide Wi-Fi in all universities on National Knowledge Network (NKN) by Ministry of Human Resource Development (MHRD), Standardization Government Email Design and Upgradation of the infrastructure of appropriately protected email program to improve its utilization within government program by MeitY, Public Wi-fi hotspots to be provided in the cities with population of over 1 million and tourist centres to promote digital cities by DoT and Ministry of Urban Development (MoUD), School Books to get converted into eBooks by Ministry of HRD, SMS based weather information and disaster alerts provided by Ministry of Earth Sciences (MoES) (India Meteorological Department - IMD)/ Ministry of Home Affairs (MHA) (National Disaster Management Authority - NDMA), National Portal for Lost & Found implemented by children MeitY and Department of Women and Child Development (DoWCD) was also realized.

## **1.2 ACCOMPLISHMENTS AND AN APPREHENSION OF CHALLENGES IN ACHIEVING OF DIGITAL INDIA**

### **1.2.1 Apprehensions in the Digital Curriculum ambit**

Digitalization under 'Digital India' heading is expanding at a very fast pace. A few years ago it was probably enough to have a superficial knowledge of the digital marketing industry by just reading a few blogs and the occasional book and is certainly a good starting point. But it is not near enough to become a skilled professional. The Digital Marketing industry today is so dynamic that by the time a book is published, what is written in it will get outdated. Digital Marketing industry requires skilled professionals to flourish. It is a bit of a challenge to stay up to date in the Digital Marketing industry today. Equally challenging is to find skilled professionals in it because, unfortunately, most of the educational institutions do not have anything to do with digital marketing in their curriculum. However, a very few courses on E-Commerce basics are there, but, Digital Marketing is a robust one than E-Commerce and only few institutions have introduced them. There seems to be an apprehensive challenge in front of us about the redesigning of our curriculum to make digital learning skills an elective component in our education system.

However, very recently an initiative has been started by IIT Hyderabad with the introduction of a full-fledged new B. Tech. programme in Artificial Intelligence to create a complete ecosystem for Artificial Intelligence Academics and Research. Besides, Microsoft has planned to skill 5 lakh youth in artificial intelligence (AI) and set up labs in 10 universities in order to broaden its AI push in India and to create the right conditions for human-focused AI.

So, we can hope for the saying 'well begun is half done' to come true in the near future in India.

### **1.2.2 Apprehensions in the loosing employment ambit**

India is a labour surplus economy and it has the advantage of using labour intensive techniques. This technique accommodates most of its labour force. Now, not only in services like banking, education, insurance, medical and telecommunication, but, digitalization has its presence in every sector. There are strong apprehensions that in the coming days even doctors will also see redundant employment growth, because, patient's data and technology will provide better clinical diagnosis and treatment. Technology is getting used to impart scale and speed to development. All these steps will render our labour force jobless. Data of 'The Centre for Monitoring Indian Economy (CMIE)' which is based on the panel size of over 1,58,000 households in the country has shown that The unemployment rate in December 2018 rose to 7.38% from 6.62% in November 2018 and 4.78% in December 2017, highest since September 2016 when it stood at a high of 8.46%. It's data also noted that alongside the increase in the unemployment rate, there has also been a decline in the labour participation rate (LPR). In such a scenario, joblessness is a matter of great concern in a labour abundant economy like India and also how to tackle it is one of the biggest challenges.

Conversely, refuting this apprehension about technology, Infosys co-founder and renowned IT industrialist Mr NR Narayana Murthy has reposed his faith in Emerging technologies such as artificial intelligence (AI) and machine learning and reiterated that technology has enabled countries like US, UK and Japan to reduce unemployment rate to a single digit. The claim of favouring technology by Mr NR Narayana which will not be at the cost of human employment, gets justified by the recent incident of consumer-technology laden Henn-na hotel in Japan which had to remove more than half of its android concierge as they weren't keeping proper pace with services of the hotel.

Quoting the above mentioned incidents, we can also relax our apprehension that the robot revolution is not going to threaten/replace human jobs. Technology only provides an opportunity to people to move from drudgery to tasks that require more human touch. Nevertheless, at present the situation is grim, but, a stable government at the center will pursue the policy of promoting electronic manufacturing in North East region which will help India in becoming the targeted a trillion-dollar digital economy in the near future that will also become a catalyst in creating jobs in the digital sector.

Furthermore, today the application of technology in medical sector in India has given a mother in a distant hill village a better chance to save her new born infant by best world renowned expert advice. Today, a child in a remote village has better access to education.

Therefore, Rachit Jain, CEO of Youth4work is of the opinion that thinking on the line that technology will replace the human beings is irrelevant and it is like saying that manufacturing more medicines will result in doctors to lose their business.

### **1.2.3 Apprehensions in the ambit of providing safe cyberspace**

Besides driving digital transformation, the Digital India Programme is building a protected digital set-up for the country. The Information Act which is in use for dealing with cybercrime and digital commerce in the country was first formulated in 2000, and then was revised in 2008 after amending a number of sections that were related to digital data, electronic devices and cybercrimes known as 'The Information Technology (Amendment) Bill, 2008'. The Government is becoming very stricter with its cybercrime policies to deal with cybersecurity issues and the nodal agency for it is The National Security Council Secretariat.

Today cybercriminals are resourceful and are smart enough. As a result, cybercrimes of diverse types are ramping up in great volumes. Recently WannaCry shook the world of cybersecurity affecting more than 100 countries. Among those, India was the 3rd worst affected. According to ITU Global Cybersecurity Index, in 2015, India was the 5th secured country among some 134 countries but moved to 23rd of the UN Global Cybersecurity Index (GCI) in 2017.

In light of the recent attacks, The Ministry of Electronics and Information Technology developed 'The National Cyber Security Policy (NCSP), 2013' and has taken various steps in this regard. Allocation of 10

% Budget for Cyber Security in Central Ministries and training of 1.14 Lakh persons through 52 institutions are some of them. The vision of the Indian government's cybersecurity policy is to build and strengthen the Regulatory framework for ensuring a secure and resilient cyberspace for citizens, businesses and Government. It will enhance adoption of IT in all sectors of the economy by generating adequate trust & confidence in IT systems and transactions in cyberspace and thereby. It also aims to create National and Sectoral level 24x7 mechanism for detecting cyber threats and to protect the Nation's critical information infrastructure by operating a 24x7 National Critical Information Infrastructure Protection Centre (NCIIPC).

In Digital India, the vital components would necessarily be highly dependent on digitally interconnected, interdependent and complex Critical Information Infrastructure (CII), How to make Data privacy and security of digital data is a very big challenge. Cyber security is vulnerable to exploitation and unsecured Wi-Fi networks can be misused for carrying out any type of cybercrime. Though Data Security Council of India has come up with Data Security Framework, but, apprehension of serious gaps in our cyber security framework such as ambiguity about the role of multiplicity of Agencies, lack of comprehensive cyber security law, absence of mandatory cyber security compliance regime, declaration of protected systems under Section 70 of IT Act, insufficient involvement of private sector and academia in cyber security programs, absence of a nationwide cyber security awareness and culture, inadequate funding of cyber security functions, insufficient preparedness of police forces to detect, investigate and prosecute cybercrimes, almost negligible cyber intelligence, shortage of skilled cyber security professionals, inadequate development of indigenous hardware and software etc. are still there.

However, recently The Reserve Bank of India (RBI) permitting authorized card payment networks to offer card tokenization services to any token requestor or third-party app providers is a step taken to check cyber-crimes in payment transactions.

#### **1.2.4 Apprehensions in the ambit of providing telecommunication infrastructure**

A KPMG report says that one of the biggest challenges that the Digital India programme faces is inadequacy of required infrastructure. India has a severe shortage of tele-infrastructure of telecom towers and fibre network. India has 500,000 telecom towers and Tower and Infrastructure Providers Association (TAIPA) estimates that the country is short by 100,000 towers. By 2020, India will need 1.2 million telecom towers to cater to the rising data demand, according to industry estimates. Fiberisation essentially strengthens the backbone of a telecom network and less than 20% of towers are fiberized in India. A Deloitte report released last year noted that India's fibre coverage in km-per-capita terms is 0.09, way behind China's 0.87, and Japan's and the US' 1.3.

In November 2016, the Centre introduced the Right of Way (RoW) rules to ease the infrastructure roll out. However, due to lack of clarity and implementation, the RoW has posed challenges to the sector. The ASSOCHAM-EY report said that RoW challenges largely stem from fragmented and non-uniform policies adopted by various states and local bodies. However, Jharkhand and Haryana have already started work on the online mechanism for right-of-way. Odisha and Uttar Pradesh are also working and the remaining states are also expecting to catch up. Presently telecom infrastructure providers have to take multiple approvals which is a time-consuming process. Anyhow, in order to save time and to fix the (RoW) problem, The Cellular Operators Association of India (COAI) will work with the Department of Telecommunications (DoT) to launch an online portal to monitor if state-wise Right of Way (RoW) applications rules and approvals for setting up telecom infrastructure are being complied with or not. The portal will enable the government and telecom infrastructure providers to keep a tab on the process, right from the time an application is filed till the final approval.

The KPMG report further said that absence of internet and a sizeable number of population without computer or laptop are a stumbling block to gaining widespread digital literacy. Free public Wi Fi facility at airport lounges and railway platforms has been provided. But, providing secured telecommunication infrastructure at each nook & corner of the country especially in far flung areas for bridging the rural-urban digital divide & to make digital system functional is a big apprehensive challenge as these are prone to random sealing, vandalism and theft.

#### **1.2.5 Apprehensions in the ambit of linkage to national level apps**

People in developing countries are a little bit hesitant in disclosing/sharing their personal information because of their conservative nature and low level of education obstructs their understanding in knowing the real significance of getting connected to the national level apps. People not co-operating the government drive to link their Aadhar numbers with any app which was seen very lately was mainly because they are apprehensive about leaking their personal information. Bill Gates in an interview during his visit to India also showed concern for country's education level for making the reforms successfully implemented.

Bill Gates in his interview had communicated that Aadhar card is nothing but a 12-digit identity number. It is just like saving Bank account & is not an intrusion to or threaten the privacy of any individual. It is only when how it is handled by the apps using this information.

Our revered Law and IT minister Ravi Shankar Prasad also agrees with Mr Bill Gates & fortifies his statement by commenting in an interview to Times of India that "Individual privacy is a must, and should remain important but, it cannot become a shield for the corrupt or terrorists. He further added that cybersecurity is one of the priority areas for the Narendra Modi government at a time when India is in an overdrive to promote cashless transactions and has been rolling out numerous citizen-empowerment services digitally."

## **2. CONCLUSION AND DISCUSSION**

We can conclude it by saying that looking at the low level of education of Indian masses, making 'digital India' a big success and making people aware about taking Aadhar as personal identity saving account is a great challenge in front of us. But, at the same time I assume one can expect wonders if our very strong social media can do the needful in making people aware about the benefits of getting digitally connected. These steps would also bring in accountability of public servants as well as of the government in discharging their respective tasks. It will certainly work like magic in executing mandated delivery of government's services electronically. Such steps will unarguably help in meeting the aspirations of country's citizens where government and its services reach the doorsteps of each and every citizen and contribute towards a long-lasting positive impact. Additionally, availability AI skilled individual's talent will assist India to compete in future by contributing in the economic growth of the country. It can be wrapped up by saying that 'Digital India' endeavour of our Prime Minister which is a necessity now can be accomplished only if Government, private players and society come

together to transform India's socio-economic dynamics so that the idea of power to empower of Digital India program can become a reality and a future of immense possibilities can be explored.

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### • **Single author journal article:**

Fox, S. (1984). Empowerment as a catalyst for change: an example for the food industry. *Supply Chain Management*, 2(3), 29–33.

Bateson, C. D.,(2006), ‘Doing Business after the Fall: The Virtue of Moral Hypocrisy’, *Journal of Business Ethics*, 66: 321 – 335

### • **Multiple author journal article:**

Khan, M. R., Islam, A. F. M. M., & Das, D. (1886). A Factor Analytic Study on the Validity of a Union Commitment Scale. *Journal of Applied Psychology*, 12(1), 129-136.

Liu, W.B, Wongcha A, & Peng, K.C. (2012), “Adopting Super-Efficiency And Tobit Model On Analyzing the Efficiency of Teacher’s Colleges In Thailand”, *International Journal on New Trends In Education and Their Implications*, Vol.3.3, 108 – 114.

- **Text Book:**

Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, E. (2007). *Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies* (3rd ed.). New York: McGraw-Hill.

S. Neelamegham," Marketing in India, Cases and Reading, Vikas Publishing House Pvt. Ltd, III Edition, 2000.

- **Edited book having one editor:**

Raine, A. (Ed.). (2006). *Crime and schizophrenia: Causes and cures*. New York: Nova Science.

- **Edited book having more than one editor:**

Greenspan, E. L., & Rosenberg, M. (Eds.). (2009). *Martin's annual criminal code: Student edition 2010*. Aurora, ON: Canada Law Book.

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- **Chapter in edited book having more than one editor:**

Young, M. E., & Wasserman, E. A. (2005). Theories of learning. In K. Lamberts, & R. L. Goldstone (Eds.), *Handbook of cognition* (pp. 161-182). Thousand Oaks, CA: Sage.

- **Electronic sources should include the URL of the website at which they may be found, as shown:**

Sillick, T. J., & Schutte, N. S. (2006). Emotional intelligence and self-esteem mediate between perceived early parental love and adult happiness. *E-Journal of Applied Psychology*, 2(2), 38-48. Retrieved from <http://ojs.lib.swin.edu.au/index.php/ejap>

- **Unpublished dissertation/ paper:**

Uddin, K. (2000). A Study of Corporate Governance in a Developing Country: A Case of Bangladesh (Unpublished Dissertation). Lingnan University, Hong Kong.

- **Article in newspaper:**

Yunus, M. (2005, March 23). Micro Credit and Poverty Alleviation in Bangladesh. *The Bangladesh Observer*, p. 9.

- **Article in magazine:**

Holloway, M. (2005, August 6). When extinct isn't. *Scientific American*, 293, 22-23.

- **Website of any institution:**

Central Bank of India (2005). *Income Recognition Norms Definition of NPA*. Retrieved August 10, 2005, from <http://www.centralbankofindia.co.in/home/index1.htm>, viewed on

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