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EDITORS

Dr. Deepika Singla

Dr. Gaurav Gupta

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Editors

Dr. Deepika Singla

Assistant Professor, M.M.Modi College Patiala, Punjab, India

Dr. Gaurav Gupta

Assistant Professor, M.M.Modi College Patiala, Punjab, India

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PREFACE

*It is a matter of great satisfaction to bring out book, **New Horizons in Commerce, Business, IT & Social Sciences**, in the hands of students, research scholars, academicians, policy makers, professionals other interested readers who are looking for in-depth insight of subject. Being teachers' of commerce, it is our moral and ethical responsibility to connect the commerce education with the issues and challenges of contemporary world. We hope through this work we can pass on to stakeholders not only knowledge and wisdom but also the motivation that we experience for the subject. The purpose of this book is to realize and analyze the emerging issues in the area of commerce and industry with viable solution. Having realized the need for a comprehensive book on the new horizons in Commerce, Business, IT & Social Sciences, we have endeavored to provide edited book, which cover fifteen important areas marketing & e-commerce, banking & finance, economics, hospitality, travel & tourism management, education & psychology, human resource management, business communication & soft skills, information technology & management information system, knowledge management, digital supply chain management, corporate governance & corporate social responsibility, ICT enabled virtual learning & teaching, block-chain technology & artificial intelligence, industry 4.0 & business strategy and multidisciplinary areas in commerce.*

The articles/papers in the book are presented in a lucid and effective language, which would be helpful to those who are involved in academics and policy formulation task. Book is more data-oriented and research based in its synthesization of concepts and analysis, which facilitate the reader to understand new development in the domain of commerce and industry. In all fifteen papers are contributed by the worthy scholars and academicians, which will enable professors to guide their students effectively. The book contains papers which examined several issues like tata case study: corporate social responsibility of tata group, digitalization of stock trading, violent behaviour against women in india, awareness and perception of crypto currency -a case study in guwahati city, impact of excessive screen time on children, unlocking the potential of industry 4.0 in financial services, International news agencies, globalization and the debate on neo-colonization, Detecting cyber bullying in social media platforms using machine learning algorithms, trajectory of india economy, communication: an essential tool for effective management,

surrogate advertising: awareness level in india context, aviation industry in india- an overview, artificial intelligence: the future of fashion, re-orientation of innovation strategy and innovation performance through knowledge management, insights on digital supply chain management.

We acknowledge the contribution of all worthy scholars and express our sincere gratitude for their valuable contribution. We also take opportunity to extend our thanks to National Press Associate for the publication of this volume. The ideas expressed in various research papers are those of individual authors. Every effort has been made to offer meticulous work on the subject yet there may be some unexplored areas. We shall therefore, be too happy to receive suggestions and comments from our readers which we promise to acknowledge with gratitude.

Editors

Dr. Deepika Singla

Dr. Gaurav Gupta

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SURROGATE ADVERTISING: AWARENESS LEVEL IN INDIAN CONTEXT

** B. B Singla ** Anisha*

** Assistant Professor Punjabi University Patiala*

*** Research Scholar Punjabi University Patiala*

ABSTRACT

Surrogate advertising is one of the emerging trends of advertisement in advertising industry in India. It relates with the duplication of one product's brand image to promote another product of same brand. Hence, the products are advertised indirectly creating an impact on consumer's insight.

Advertisements are an enlightening source and create awareness among the consumers. On one side, it ensures positivity in awaking and cultivating people about the products and its benefits through advertisements, on the other hand it also promotes the products which are health hazardous and shouldn't be consumed. With the objective and target of protecting society from such products and deceptive information, Government of India banned advertisement of such products.

KEY WORDS: Surrogate advertising, Age, Occupation, Awareness level

INTRODUCTION

ADVERTISEMENT INDUSTRY

Advertisements are an effective means of positioning the brand products in the market. Their primary aim is to influence consumer behavior and increase the sales by luring a wide range of population. For a successful launch of product, marketing researchers work strenuously in generating, refining and evaluating advertisements in order to monitor the potential market performance of the product. A systematic gathering of data, recording and data analyses is done in order to raise the knowledge and use the facts and data to study the impact of advertisements on individual or groups based on ideas, buying behavior, emotional and mental responses. Thus, the industry works on the principle of identifying and assessing the changing pattern in elements of marketing mix with respect to customer behavior.

The advertised product may have a positive or negative impact on the audience. Particularly, the promotion of health hazardous products has an adverse influence on the general public. Therefore, Government of India has imposed a ban on direct advertising of all such products. Yet, in this competitive business world the ethical positioning of such products is compromised for monetary reasons. To overcome the profitability loss and maintain the brand awareness, the effected market researchers and agencies use brand extension and 'Surrogate Advertising' as a deterrent to break the ice.

This form of advertising advertises the products which are legal in order to promote their outlawed products as well as showcase the companies as socially responsible by sponsoring community/sport events or public service broadcasts or publications. For example: Indian Cricket Team skipper MS Dhoni advertised for the surrogate product soda for McDowell's No.1 Platinum and the tag line of the advertisement was "The No. 1 Spirit of FRIENDSHIP."

The strategy has proved to be extremely effective in promoting as well as recalling the brand name. It persuades the customers to purchase the products as the trade name stays in their subconscious mind.

INDIAN SCENARIO

Surrogate advertisements were first traced back in India in 1995 when the Cable Television act was enforced: stating that advertisements which directly or indirectly promote sale or consumption of cigarettes, wine, liquor

or any intoxicants will be banned (Nathwani, 2016). After the banning of the promotion of such products, the Indian market had started using the *surrogate advertisements* which is the form of advertisement where a product is promoted through similar other products, logo, brand etc.

Surrogate means replacement or alternate. Because of the ban, the liquor companies started focusing on promotions for brand building, started sponsoring events that helped in projecting the glamour of the brands, like racing tournaments, rallies and other sports tournaments.

Now mostly liquor companies entered into packaged water segments, such as king fisher mineral waters, McDowell mineral water and soda which helped the companies in generating additional revenues for the company (Nathwani, 2016).

For example: Bagpiper which produces soda and liquor under same brand name of Bagpiper.

In short, a surrogate advertisement includes:

- The duplication of brand image of one product to promote other product of same company.
- To use the well-known established brand to encompass that product.
- Done by complementary products such as soda, bottled water, fruit juice, music CDs, apparel, accessories and sports goods of the same brand.

Motive:

1. It leads the liquor brands to promote sales.
2. It helps to have an impact on consumers buying decisions.
3. It hammers the brand name in the minds of consumer.

Few examples of surrogate's advertisements are:

(Mohod, 2015) Such advertisements or sponsorships help in contribute to brand recall. The different product shown in the advertisement is called the "Surrogate."

| | |
|-----------------|---|
| Bacardi | • music |
| Kingfisher | • mineral water • calendars |
| Smirnoff | • fruits juices |
| Royal challenge | • golf tournaments • mineral water |
| Imperial blue | • cassettes • CDs |
| Bagpiper | • water, soda • music- cassettes & CDs |
| Red and white | • bravery awards |

PROS AND CONS OF SURROGATE ADVERTISING

Kumar, Verma, Halder & Datta (2017), have discussed advantages and disadvantages of Surrogate advertisements.

ADVANTAGES

1. Companies have to spend considerable amount of capital for marketing their products. Surrogate advertising helps in saving companies huge expenditure and also helps in increase the profit margins.
2. Surrogate advertising is beneficial for domestic players; it not only confines the entry of various MNC's but also creates problem for new entrants in brand building.
3. Ban on advertisement reduces competition to a great extent.

DISADVANTAGES

1. There is no logic of using the brand name for products like mineral water. It clearly indicates misusing the loopholes.
2. The ban severely affects the sale of banned products to some extent.
3. Also results in loss of revenues of TV channels and other media.

LITERATURE REVIEW

In this, the researcher identified and reviewed research papers. To develop a thorough understanding of the empirical research in the field of Surrogate advertising review of literature related to it was undertaken. For proper understanding of research work, sincere efforts have been made to review the related literature. The review of literature serves as guidance for any study. It helps to eliminate the duplication of what has already been done.

Sharma, Rishi Raj, Chander, Subhash 2007 found in study that 'Surrogate advertising' is one of the emerging ethical issues in advertising in India. This is used as a strategy to advertise products like liquor or tobacco-the advertisement of which otherwise, is banned in our country. It relates to advertising by duplicating the brand image of one product extensively to promote another product of the same brand.

Bansal, 2014 discussed that in case of surrogate advertising, companies promote their products with the help of corporate advertising, distributing free gifts samples like t-shirts, Caps with the brand logo.

Manjunath & Sreekanth, 2015 discussed that surrogate advertisements duplicate the brand image of one product in order to support another product of same brand. It is taken into contemplation when the original product of the brand is not allowed to advertise itself directly in public through mass media. These advertisements create brand recall of the hidden product in the advertisement. Most commonly tobacco and liquor companies use different products under same brand name.

Rajpal & Nayak, 2015 conducted a study which discussed about duplication of the brand image of one product in order to promote the other product of same brand in order to endorse them to discharge social obligations towards society.

Singh 2015 explained that surrogate advertisements from liquor companies boosted further through sponsorships of movies, music shows, and other programs and attracting youth. The plentiful of other advertisements promoting and selling music cassettes and CDs, water, clothing, fashion and sports accessories.

Nathwani, 2016 discussed the origin of surrogate advertisement which arose from Britain when the housewives began to object against alcoholic advertisements which motivated their husbands. The dispute rose to a point where liquor advertising had to be banned and brand owners had no other way but decided to promote fruit juices and soda water under the brand name; the impression later emerged as surrogate advertisements.

Vyas & Bissa, 2017 in their study studied that in the year 2002, The Information & Broadcasting Industry restricted several advertisements and asked major satellites tv channels including Zee, Sony, star and Aaj Tak to explain their rationale behind carrying surrogate liquor advertisements of liquor brands such as McDowell No1 Also in addition, the ministry hired a private monitoring agency to keep a strict watch on all advertisements for violation of the act.

Abin & Reshma 2020 discussed the effects of surrogate advertisements on consumer response in india. The findings indicated that it has positive impact on brand awareness and the ultimate decision lies within the hands of consumers.

NEED OF THE STUDY

Advertisement is major and effective source of passing the information to the public in order to persuade, influence and induce them to generate curiosity and then adopt services (Ahuja, 2015). Advertising is a form of marketing communication that is used to promote or sell any product or services of any business.

This research study is done to find the people's observation and awareness and insight of surrogate advertisements on customer's buying choice. It is based on the responses collected from respondents of different age groups and occupations.

RESEARCH METHODOLOGY

Research methodology is the way in which research problem formulated for the research study is solved systematically. It consists of research design, scope of the study, sources of data collection, sampling technique, sample size and data analysis tools to be used.

RESEARCH DESIGN

Research design can be thought of as the *structure* of research -- it is the "glue" that holds all of the elements in a research project together. A design means using summarizing information and details that enables us to recap a complex design structure proficiently.

Considering the objectives of the study, sample survey will be conducted and accordingly analysis of information will be made. Exploratory research design will be used in present study.

SCOPE OF STUDY

The study covered the respondents within the city of Patiala and Punjabi university

SAMPLING TECHNIQUE & SIZE

Sampling design is a plan for obtaining a sample from a given population. It refers to the technique and the procedure the researcher would adopt in selecting items for the sample. Sample design is determined before data are collected. Since, the sample is designed to know the awareness level of consumers towards Surrogate advertising. The present study is based on of Convenience Sampling Technique to collect data for the analysis of study. For the purpose of the study only 101 respondents from large population of Punjab were selected.

TOOLS & TECHNIQUES

The data collected from the survey have been analyzed with the help of statistical tool i.e. Chi-Square Test using SPSS software 16.0 version.

STUDY OF DEMOGRAPHIC VARIABLES USING CHI-SQUARE ANALYSIS

The objective of this paper will be to investigate the awareness level of respondents on the basis of surrogate advertisements and to know whether surrogate advertising will help to promote the core product or not. The study will analyze all the objectives of the one hundred and one select respondents on the basis of 2 demographics – AGE and OCCUPATION.

Null and Alternative hypotheses were framed on the basis of age and occupation attributes to check whether there is significant association between respondents and their attributes.

H0: No Association between the respondents and their attributes

H1: Association between the respondents and their attribute

AWARENESS LEVEL

AGE:

(TABLE NO A1)

| 1. From which kind of media you watch the advertisement | | | | | | | | |
|--|-----------------------|--------------|---|-------------------|-----------------|---------------|--------|--------|
| | | | From which kind of media you watch the advertisement | | | | Total | |
| | | | PRINT MEDIA | TELEVISION | INTERNET | MOBILE | | |
| Age | BELOW 20 YEARS | Count | 0 | 6 | 0 | 0 | 6 | |
| | | % within Age | .0% | 100.0% | .0% | .0% | 100.0% | |
| | 20-30 YEARS | Count | 3 | 58 | 7 | 5 | 73 | |
| | | % within Age | 4.1% | 79.5% | 9.6% | 6.8% | 100.0% | |
| | 30-50 YEARS | Count | 0 | 17 | 0 | 0 | 17 | |
| | | % within Age | .0% | 100.0% | .0% | .0% | 100.0% | |
| | ABOVE 50 | Count | 0 | 5 | 0 | 0 | 5 | |
| | | % within Age | .0% | 100.0% | .0% | .0% | 100.0% | |
| | Total | | Count | 3 | 86 | 7 | 5 | 101 |
| | | | % within Age | 3.0% | 85.1% | 6.9% | 5.0% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|--------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 6.757 ^a | 9 | .662 |
| Likelihood Ratio | 10.711 | 9 | .296 |
| Linear-by-Linear Association | .358 | 1 | .550 |
| N of Valid Cases | 101 | | |

HYPOTHESIS:

H0: Age has no significant relationship with the kind of media for watching television.

H1: Age has a significant relationship with the kind of media for watching television.

INTERPRETATION

The analysis in the above table reveals that 100% of the total respondents of age group below 20 consider television as media for watching advertisement.

In the age group of 20-30,79.5%of total respondents have a response for watching advertisement through television, while 9.6%consider internet, 6.8% mobile,4.1% print media as a source of watching advertisements.

In the age group of above 30years,100% of the total respondents consider television as media for watching advertisement.

The chi square test applied on the results shown in above table which reveals that there is *no* association between the age of the respondents and the form of media of advertisement, as the value of chi square (.662) is insignificant ($p < 0.05$) Hence, no significant difference has been observed so (H0) null hypothesis is accepted.

2. How often do you see advertisement of Alcohol?

(TABLE NO A2)

| | | | How often do you see advertisement of Alcohol? | | | | | Total |
|-----|----------------|--------------|--|--------------|-------|------------|---------------|--------|
| | | | REGULAR | OCCASIONALLY | RARE | NOT AT ALL | DONT REMEMBER | |
| Age | BELOW 20 YEARS | Count | 0 | 4 | 2 | 0 | 0 | 6 |
| | | % within Age | .0% | 66.7% | 33.3% | .0% | .0% | 100.0% |
| | 20-30 YEARS | Count | 8 | 29 | 26 | 2 | 8 | 73 |
| | | % within Age | 11.0% | 39.7% | 35.6% | 2.7% | 11.0% | 100.0% |
| | 30-50 YEARS | Count | 0 | 6 | 11 | 0 | 0 | 17 |
| | | % within Age | .0% | 35.3% | 64.7% | .0% | .0% | 100.0% |
| | ABOVE 50 | Count | 0 | 2 | 3 | 0 | 0 | 5 |
| | | % within Age | .0% | 40.0% | 60.0% | .0% | .0% | 100.0% |

| Chi-Square Tests | | | | | | | |
|------------------------------|--------------|------|-------|---------------------|------|-----------------------|--------|
| | | | | Value | df | Asymp. Sig. (2-sided) | |
| Pearson Chi-Square | | | | 11.357 ^a | 12 | .499 | |
| Likelihood Ratio | | | | 15.652 | 12 | .208 | |
| Linear-by-Linear Association | | | | .125 | 1 | .723 | |
| N of Valid Cases | | | | 101 | | | |
| Total | Count | 8 | 41 | 42 | 2 | 8 | 101 |
| | % within Age | 7.9% | 40.6% | 41.6% | 2.0% | 7.9% | 100.0% |

HYPOTHESIS:

H0: Age has no significant association with the often seen advertisements of alcohol.

H1: Age has a significant association with the often seen advertisements of alcohol.

INTERPRETATION

The analysis in the above table reveals that age group below 20 see advertisement of alcohol occasionally with 66.7% and other watch rare with 33.3%.

In the age group of 20-30, 39.7% of total respondents watch advertisements of alcohol occasionally, 35.6% rarely, while 11% watch regularly, 11% don't remember and remaining 2.7% do not watch any of the advertisements.

In the age group of 30-50, 64.7% of the total respondents watch advertisements rarely while rest 35.3% watch occasionally.

In the age group above 50, majority of respondents have seen the advertisements rarely with 60% and rest have seen occasionally with 40%.

The chi square test applied on the results shown in above table which reveals that there is an association between the age of the respondents and the advertisements of alcohol, as the value of chi square (.499) is significant ($p > 0.05$). Hence, (H1) alternate hypothesis is accepted.

3. DO YOU KNOW ABOUT SURROGATE ADVERTISEMENTS?

| (TABLE NO A3) | | | | | |
|---------------|----------------|--|-------|--------|--------|
| | | Do you know about surrogate advertisements | | | Total |
| | | YES | NO | | |
| Age | BELOW 20 YEARS | Count | 0 | 6 | 6 |
| | | % within Age | .0% | 100.0% | 100.0% |
| | 20-30 YEARS | Count | 30 | 43 | 73 |
| | | % within Age | 41.1% | 58.9% | 100.0% |
| | 30-50 YEARS | Count | 2 | 15 | 17 |
| | | % within Age | 11.8% | 88.2% | 100.0% |
| | ABOVE 50 | Count | 2 | 3 | 5 |
| | | % within Age | 40.0% | 60.0% | 100.0% |
| Total | | Count | 34 | 67 | 101 |
| | | % within Age | 33.7% | 66.3% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|--------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 8.591 ^a | 3 | .035 |
| Likelihood Ratio | 11.116 | 3 | .011 |
| Linear-by-Linear Association | .131 | 1 | .717 |
| N of Valid Cases | 101 | | |

Hypothesis:

H0: Age has no significant association with the awareness of surrogate advertisements.

H1: Age has a significant association with the awareness of surrogate advertisements.

INTERPRETATION:

The analysis in the above table reveals that 100% of the total respondents of age group below 20 do not know about surrogate advertisements at all.

In the age group of 20-30, 58.9% of total respondents are unaware about the advertisement while 41.1% are aware about the advertisements.

In the age group of above 30years, 88.2% of the total respondents are unaware while rests are aware.

In the age group above 50, 40% know about surrogate advertisements and rests are still unaware.

The chi square test applied on the results shown in above table which reveals that there is no association between the age of the respondents and the awareness of surrogate advertisements, as the value of chi square (0.35) is insignificant ($p < 0.05$) Hence (H0) null hypothesis is accepted.

4. DO YOU KNOW ABOUT BANNING OF ALCOHOL ADVERTISEMENTS IN INDIA?

| (TABLE NO A4) | | | | | |
|---------------|----------------|---|-------|-------|--------|
| | | Do you know about banning of alcohol advertisements in India? | | | Total |
| | | YES | NO | | |
| Age | BELOW 20 YEARS | Count | 4 | 2 | 6 |
| | | % within Age | 66.7% | 33.3% | 100.0% |
| | 20-30 YEARS | Count | 65 | 8 | 73 |
| | | % within Age | 89.0% | 11.0% | 100.0% |
| | 30-50 YEARS | Count | 15 | 2 | 17 |
| | | % within Age | 88.2% | 11.8% | 100.0% |

| | | | | | |
|-------|----------|--------------|--------|-------|--------|
| | | % within Age | 88.2% | 11.8% | 100.0% |
| | ABOVE 50 | Count | 5 | 0 | 5 |
| | | % within Age | 100.0% | .0% | 100.0% |
| Total | | Count | 89 | 12 | 101 |
| | | % within Age | 88.1% | 11.9% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|--------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 3.371 ^a | 3 | .338 |
| Likelihood Ratio | 3.220 | 3 | .359 |
| Linear-by-Linear Association | 1.524 | 1 | .217 |
| N of Valid Cases | 101 | | |

HYPOTHESIS:

H0: Age has no significant association with the awareness of banning of alcoholic advertisements.

H1: Age has a significant association with the awareness of banning of alcoholic advertisements.

INTERPRETATION:

The analysis in the above table reveals that 66.7% of the total respondents of age group below 20 know about banning of alcoholic advertisements and rest don't know.

In the age group of 20-30, majority with 89% of total respondents are aware about the banning of such advertisement while 11% are unaware about the advertisements.

In the age group of above 30years, 88.2% of the total respondents are aware while rests are unaware.

In the age group above 50, 100% of the total respondents know about banning.

The chi square test applied on the results shown in above table which reveals that there is association between the age of the respondents and the advertisements of alcohol banning, as the value of chi square (.338) is significant ($p > 0.05$) Hence (H1) alternate hypothesis is accepted.

5. WHICH ALCOHOLIC BRANDS SURROGATE ADVERTISEMENTS YOU SEE THE MOST?

| (TABLE NO A5) | | | | | | | | |
|----------------------|----------------|--------------|---|-----------------|----------|------------|--------|--------|
| | | | Which Alcoholic brands surrogate advertisements you see the most? | | | | | Total |
| | | | BACARDI | ROYAL CHALLENGE | SMIRNOFF | KINGFISHER | OTHERS | |
| Age | BELOW 20 YEARS | Count | 0 | 6 | 0 | 0 | 0 | 6 |
| | | % within Age | .0% | 100.0% | .0% | .0% | .0% | 100.0% |
| | 20-30 YEARS | Count | 3 | 22 | 5 | 23 | 20 | 73 |
| | | % within Age | 4.1% | 30.1% | 6.8% | 31.5% | 27.4% | 100.0% |
| | 30-50 YEARS | Count | 2 | 0 | 4 | 7 | 4 | 17 |
| | | % within Age | 11.8% | .0% | 23.5% | 41.2% | 23.5% | 100.0% |
| | ABOVE 50 | Count | 0 | 0 | 0 | 3 | 2 | 5 |
| | | % within Age | .0% | .0% | .0% | 60.0% | 40.0% | 100.0% |
| Total | Count | 5 | 28 | 9 | 33 | 26 | 101 | |
| | % within Age | 5.0% | 27.7% | 8.9% | 32.7% | 25.7% | 100.0% | |

| Chi-Square Tests | | | |
|------------------------------|---------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 30.766 ^a | 12 | .002 |
| Likelihood Ratio | 35.299 | 12 | .000 |
| Linear-by-Linear Association | 7.150 | 1 | .007 |
| N of Valid Cases | 101 | | |

HYPOTHESIS:

H0: Age of the respondents and the advertisements of alcohol mostly seen do not have any association.

H1: Age of the respondents and the advertisements of alcohol mostly seen have association with one another.

INTERPRETATION:

The analysis in the above table reveals that 100% of the total respondents of age group below 20 have seen royal challenge’s surrogate advertisement.

In the age group of 20-30, majority with 31.5% of total respondents have seen other brands surrogate products advertisements, 30.1% have seen royal challenge, 27.4% other brands, 6.8% Smirnoff, 4.1 Bacardi.

In the age group of above 30years, majority of respondents with 41.2% have seen kingfishers advertisement, and rest with other brands.

In the age group above 50, 60% of the total respondents have seen kingfishers and rest with other brands.

The chi square test applied on the results shown in above table which reveals that there is no association between the age of the respondents and the advertisements of alcohol mostly seen , as the value of chi square (0.02) is insignificant (p<0.05) Hence, (H0) null hypothesis is accepted.

6. WHICH ATTRIBUTE MAKES YOU REMEMBER THAT SURROGATE PRODUCT?

| (TABLE NO A6) | | | | | | | |
|---------------|----------------|--------------|--|------------|--------|----------|--------|
| | | | Which attribute makes you remember that surrogate product? | | | | Total |
| | | | CELEBRITIES | CREATIVITY | LOGO | WORDINGS | |
| Age | BELOW 20 YEARS | Count | 0 | 0 | 6 | 0 | 6 |
| | | % within Age | .0% | .0% | 100.0% | .0% | 100.0% |
| | 20-30 YEARS | Count | 10 | 3 | 51 | 9 | 73 |
| | | % within Age | 13.7% | 4.1% | 69.9% | 12.3% | 100.0% |
| | 30-50 YEARS | Count | 0 | 0 | 15 | 2 | 17 |
| | | % within Age | .0% | .0% | 88.2% | 11.8% | 100.0% |
| | ABOVE 50 | Count | 0 | 0 | 5 | 0 | 5 |
| | | % within Age | .0% | .0% | 100.0% | .0% | 100.0% |
| Total | Count | 10 | 3 | 77 | 11 | 101 | |
| | % within Age | 9.9% | 3.0% | 76.2% | 10.9% | 100.0% | |

| Chi-Square Tests | | | |
|------------------------------|--------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 7.860 ^a | 9 | .548 |
| Likelihood Ratio | 12.429 | 9 | .190 |
| Linear-by-Linear Association | .995 | 1 | .319 |
| N of Valid Cases | 101 | | |

| Chi-Square Tests | | | |
|------------------------------|--------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 7.860 ^a | 9 | .548 |
| Likelihood Ratio | 12.429 | 9 | .190 |
| Linear-by-Linear Association | .995 | 1 | .319 |

Hypothesis:

H0: There is no association between the age of the respondents and the advertisements attribute remembrance

H1: There is association between the age of the respondents and the advertisements attribute remembrance

INTERPRETATION:

The analysis in the above table reveals that 100% of the total respondents of age group below 20 remember the surrogate product with the logo of original brand.

In the age group of 20-30, majority with 69.9% of total respondents remember with logo 13.7% by celebrities, 12.3% by wordings and rest by creativity.

In the age group of above 30years, majority of respondents with 88.2% remember advertisements by logo, and 11.8% by wordings.

In the age group above 50, 100% of the total respondents remember advertisements by logo.

The chi square test applied on the results shown in above table which reveals that there is association between the age of the respondents and the advertisements attribute remembrance, as the value of chi square (.548) is significant ($p > 0.05$) Hence (H1) alternate hypothesis is accepted.

OCCUPATION:

1. From which kind of media you watch the advertisement?

| (TABLE NO 01) | | | | | | | |
|----------------------|---------------------|---------------------|--|------------|----------|--------|--------|
| | | | From which kind of media you watch the advertisement | | | | Total |
| | | | PRINT MEDIA | TELEVISION | INTERNET | MOBILE | |
| Occupation | STUDENT | Count | 3 | 42 | 4 | 0 | 49 |
| | | % within Occupation | 6.1% | 85.7% | 8.2% | .0% | 100.0% |
| | SELF EMPLOYEE | Count | 0 | 21 | 0 | 0 | 21 |
| | | % within Occupation | .0% | 100.0% | .0% | .0% | 100.0% |
| | SERVICE | Count | 0 | 17 | 0 | 5 | 22 |
| | | % within Occupation | .0% | 77.3% | .0% | 22.7% | 100.0% |
| BUSINESS | Count | 0 | 6 | 3 | 0 | 9 | |
| | % within Occupation | .0% | 66.7% | 33.3% | .0% | 100.0% | |
| Total | | Count | 3 | 86 | 7 | 5 | 101 |
| | | % within Occupation | 3.0% | 85.1% | 6.9% | 5.0% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|---------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 34.345 ^a | 9 | .000 |
| Likelihood Ratio | 31.386 | 9 | .000 |
| Linear-by-Linear Association | 8.974 | 1 | .003 |
| N of Valid Cases | 101 | | |

Hypothesis:

H0: Occupation has no significant relationship with the kind of media for watching television.

H1: Occupation has a significant relationship with the kind of media for watching television.

INTERPRETATION:

The analysis in the above table reveals that 85.7% of the total respondents are students and they consider television as media for watching advertisement and rest with internet and mobile.

100% Self employee respondents have a response for watching advertisement through television

77.3% of service employees consider television as media for watching advertisement and others

Majority of respondents i.e. 66.7% having business have response for watching advertisement through television and rest via internet.

The chi square test applied on the results shown in above table which reveals that there is no association between the occupation of the respondents and the advertisements media, as the value of chi square (0.000) is insignificant ($p < 0.05$) Hence, (H1) null hypothesis is accepted.

2. How often do you see advertisement of Alcohol?

| (TABLE NO 02) | | | | | | | | |
|----------------------|---------------|---|---------|--------------|-------|------------|---------------|--------|
| | | How often do you see advertisement of Alcohol | | | | | | Total |
| | | | REGULAR | OCCASIONALLY | RARE | NOT AT ALL | DONT REMEMBER | |
| Occupation | STUDENT | Count | 6 | 17 | 19 | 2 | 5 | 49 |
| | | % within Occupation | 12.2% | 34.7% | 38.8% | 4.1% | 10.2% | 100.0% |
| | SELF EMPLOYEE | Count | 0 | 8 | 13 | 0 | 0 | 21 |
| | | % within Occupation | .0% | 38.1% | 61.9% | .0% | .0% | 100.0% |
| | SERVICE | Count | 0 | 13 | 6 | 0 | 3 | 22 |
| | | % within Occupation | .0% | 59.1% | 27.3% | .0% | 13.6% | 100.0% |
| | BUSINESS | Count | 2 | 3 | 4 | 0 | 0 | 9 |
| | | % within Occupation | 22.2% | 33.3% | 44.4% | .0% | .0% | 100.0% |
| Total | | Count | 8 | 41 | 42 | 2 | 8 | 101 |
| | | % within Occupation | 7.9% | 40.6% | 41.6% | 2.0% | 7.9% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|---------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 18.318 ^a | 12 | .106 |
| Likelihood Ratio | 23.420 | 12 | .024 |
| Linear-by-Linear Association | .572 | 1 | .449 |
| N of Valid Cases | 101 | | |

Hypothesis:

H0: Occupation has no significant association with the often seen advertisements of alcohol.

H1: Occupation has a significant association with the often seen advertisements of alcohol.

INTERPRETATION:

The analysis in the above table reveals that students have seen advertisement of alcohol rarely with 38.8%, occasionally with 34.7%, 12.2% regularly and other 10.2% do not remember.

In the occupation group of self-employees, 61.9% of total respondents watch advertisements of alcohol rarely, while 38.1% watch occasionally.

In the service group, 59.1% of the total respondent's watch advertisements occasionally, 27.3% watch rarely, while remaining do not remember.

In the business group, majority of respondents have seen the advertisements rarely with 44.4%, 33.3% have seen occasionally rest 22.2% have seen regularly.

The chi square test applied on the results shown in above table which reveals that there is association between the occupation of the respondents and the advertisements mostly seen, as the value of chi square (.106) is significant ($p > 0.05$) Hence (H1) alternate hypothesis is accepted.

3. Do you know about surrogate advertisements?

| (TABLE NO O3) | | | | | |
|----------------------|---------------|---------------------|--|-------|--------|
| | | | Do you know about surrogate advertisements | | Total |
| | | | YES | NO | |
| Occupation | STUDENT | Count | 20 | 29 | 49 |
| | | % within Occupation | 40.8% | 59.2% | 100.0% |
| | SELF EMPLOYEE | Count | 8 | 13 | 21 |
| | | % within Occupation | 38.1% | 61.9% | 100.0% |
| | SERVICE | Count | 4 | 18 | 22 |
| | | % within Occupation | 18.2% | 81.8% | 100.0% |
| | BUSINESS | Count | 2 | 7 | 9 |
| | | % within Occupation | 22.2% | 77.8% | 100.0% |
| Total | | Count | 34 | 67 | 101 |
| | | % within Occupation | 33.7% | 66.3% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|--------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 4.196 ^a | 3 | .241 |
| Likelihood Ratio | 4.460 | 3 | .216 |
| Linear-by-Linear Association | 3.359 | 1 | .067 |
| N of Valid Cases | 101 | | |

HYPOTHESIS:

H0: Occupation has no significant association with the awareness of surrogate advertisements.

H1: Occupation has a significant association with the awareness of surrogate advertisements.

INTERPRETATION:

The analysis in the above table reveals. That 59.2% of students are unaware about the advertisement while 40.8% are aware about the advertisements.

In the occupation group of self-employees, 61.9% of the total respondents are unaware while rests are aware.

In the occupations group of service class, 81.8% know about surrogate advertisements and rests are still unaware.

77.8% business groups are unaware about surrogate advertisements rest know about them.

The chi square test applied on the results shown in above table which reveals that there is association between the occupation of the respondents and the awareness of surrogate advertisements, as the value of chi square (.241) is significant ($p > 0.05$) Hence (H1) alternate hypothesis is accepted.

4. Do you know about banning of alcohol advertisements in India?

| (TABLE NO O4) | | | | | |
|---------------|---------------|---------------------|---|-------|--------|
| | | | Do you know about banning of alcohol advertisements in India? | | Total |
| | | | YES | NO | |
| Occupation | STUDENT | Count | 42 | 7 | 49 |
| | | % within Occupation | 85.7% | 14.3% | 100.0% |
| | SELF EMPLOYEE | Count | 19 | 2 | 21 |
| | | % within Occupation | 90.5% | 9.5% | 100.0% |
| | SERVICE | Count | 22 | 0 | 22 |
| | | % within Occupation | 100.0% | .0% | 100.0% |
| | BUSINESS | Count | 6 | 3 | 9 |
| | | % within Occupation | 66.7% | 33.3% | 100.0% |
| Total | | Count | 89 | 12 | 101 |
| | | % within Occupation | 88.1% | 11.9% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|--------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 7.304 ^a | 3 | .063 |
| Likelihood Ratio | 8.782 | 3 | .032 |
| Linear-by-Linear Association | .000 | 1 | .983 |
| N of Valid Cases | 101 | | |

HYPOTHESIS:

H0: Occupation has no significant association with the awareness of banning of alcoholic advertisements.

H1: Occupation has a significant association with the awareness of banning of alcoholic advertisements.

INTERPRETATION:

The analysis in the above table reveals that 85.7% of the total respondents are students who know about banning of alcoholic advertisements and rest doesn't know.

In the occupation group of self-employee, majority with 90.5% of total respondents are aware about the banning of such advertisement while 9.5% are unaware about the advertisements.

In the occupation group of service class, 100% of the total respondents are aware

In business class group, 100% of the total respondents know about banning.

The chi square test applied on the results shown in above table which reveals that there is association between the occupation of the respondents and the advertisements of alcohol banning, as the value of chi square (.063) is significant ($p > 0.05$) Hence (H1) alternate hypothesis is accepted.

5. Which Alcoholic brands surrogate advertisements you see the most?

| (TABLE NO 05) | | | | | | | | |
|---------------|---------------|---------------------|---|-----------------|----------|------------|--------|--------|
| | | | Which Alcoholic brands surrogate advertisements you see the most? | | | | | Total |
| | | | BACARDI | ROYAL CHALLENGE | SMIRNOFF | KINGFISHER | OTHERS | |
| Occupation | STUDENT | Count | 3 | 18 | 3 | 18 | 7 | 49 |
| | | % within Occupation | 6.1% | 36.7% | 6.1% | 36.7% | 14.3% | 100.0% |
| | SELF EMPLOYEE | Count | 0 | 3 | 2 | 8 | 8 | 21 |
| | | % within Occupation | .0% | 14.3% | 9.5% | 38.1% | 38.1% | 100.0% |
| | SERVICE | Count | 2 | 2 | 4 | 7 | 7 | 22 |
| | | % within Occupation | 9.1% | 9.1% | 18.2% | 31.8% | 31.8% | 100.0% |
| | BUSINESS | Count | 0 | 5 | 0 | 0 | 4 | 9 |
| | | % within Occupation | .0% | 55.6% | .0% | .0% | 44.4% | 100.0% |
| Total | | Count | 5 | 28 | 9 | 33 | 26 | 101 |
| | | % within Occupation | 5.0% | 27.7% | 8.9% | 32.7% | 25.7% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|---------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 22.480 ^a | 12 | .032 |
| Likelihood Ratio | 27.737 | 12 | .006 |
| Linear-by-Linear Association | 1.705 | 1 | .192 |
| N of Valid Cases | 101 | | |

Hypothesis:

H0: Occupation of the respondents and the advertisements of alcohol mostly seen do not have any association.

H1: Occupation of the respondents and the advertisements of alcohol mostly seen have association with one another.

INTERPRETATION:

The analysis in the above table reveals that 36.7% each of the total students have seen both royal challengers and kingfishers surrogate advertisement, 14.3% other brands, and rest 6.3% of both Bacardi and Smirnoff.

In the occupation group of self-employees, majority with 38.1% each of total respondents have seen other brands and kingfishers surrogate products advertisements, 14.3% have seen royal challenge, 9.5 % Smirnoff.

In the group of service employees, majority of respondents with 31.8 each % have seen Kingfishers advertisement and other brands, 18.2% Smirnoff, 9.1% each of Bacardi and royal challenges.

The business class has seen royal challenge in majority with 55.6% and rest with others.

The chi square test applied on the results shown in above table which reveals that there is no association between the occupation of the respondents and the advertisements of alcoholic brands seen most., as the value of chi square (.032) is insignificant ($p < 0.05$) Hence (H_0) null hypothesis is accepted.

6. Which attribute makes you remember that surrogate product?

| (TABLE NO O6) | | | | | | | |
|---------------|---------------------|--|---|------------|--------|----------|--------|
| Occupation | | | Which attribute makes you remember that surrogate product | | | | Total |
| | | | CELEBRITIES | CREATIVITY | LOGO | WORDINGS | |
| STUDENT | Count | | 8 | 0 | 35 | 6 | 49 |
| | % within Occupation | | 16.3% | .0% | 71.4% | 12.2% | 100.0% |
| SELF EMPLOYEE | Count | | 0 | 0 | 21 | 0 | 21 |
| | % within Occupation | | .0% | .0% | 100.0% | .0% | 100.0% |
| SERVICE | Count | | 0 | 0 | 17 | 5 | 22 |
| | % within Occupation | | .0% | .0% | 77.3% | 22.7% | 100.0% |
| BUSINESS | Count | | 2 | 3 | 4 | 0 | 9 |
| | % within Occupation | | 22.2% | 33.3% | 44.4% | .0% | 100.0% |
| Total | Count | | 10 | 3 | 77 | 11 | 101 |
| | % within Occupation | | 9.9% | 3.0% | 76.2% | 10.9% | 100.0% |

| Chi-Square Tests | | | |
|------------------------------|---------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 47.427 ^a | 9 | .000 |
| Likelihood Ratio | 37.482 | 9 | .000 |
| Linear-by-Linear Association | .000 | 1 | .993 |
| N of Valid Cases | 101 | | |

Hypothesis:

H₀: Occupation of the respondents and the attribute to remember surrogate products do not have any association.

H₁: Occupation of the respondents and the attribute to remember surrogate products have association with one another.

INTERPRETATION:

The analysis in the above table reveals that 71.4% of the total student remembers the surrogate product with the logo of original brand, 16.3% with celebrities, and rest by wordings.

In the self-employee 100% of total respondents remember with logo.

In the group of service employees, majority of respondents with 77.3% remember advertisements by logo, and rest 22.7% by wordings.

The majority of business class with 44.4% remembers advertisements by logo, 33.3% by creativity, and rest by celebrities.

The chi square test applied on the results shown in above table which reveals that there is no association between the occupation of the respondents and the attributes of advertisements remembered, as the value of chi square (.000) is insignificant ($p < 0.05$). Hence (H₀) null hypothesis is accepted.

FINDINGS OF THE STUDY:

This study gives an absolute and detailed clarification of the concept of surrogate advertising with the help of the secondary data where the basic concept, its existence in Indian market, emergence and companies using surrogate advertisements, legal cases, and ethical concerns are stated with a clear description.

- The study identifies that some of the respondents see the alcoholic advertisements occasionally and rare.
- Most of the respondents were not aware of the surrogate advertisements earlier, but the questionnaire has enabled them to understand the concept, while some of the respondents were aware of the concept earlier itself.
- From analysis of questionnaire it is found that even though consumers lack the level of awareness, they are familiar with the concept of banning of alcoholic advertising.
- They are aware about the product by logo and king fisher and royal challenge was the most common brand whose advertisements are being recalled.
- From chi square test it is understood that these ads induce customers to buy the surrogate product but still the original products trying is less as compared to surrogate products.

LIMITATIONS OF THE STUDY

Study is restricted to the geographical limits of Patiala. There is limited period of survey and limited sample size (101). There were few responses which were vague to get complete and inaccurate information could be there in the study.

CONCLUSION

Surrogate advertising means essentially duplicating the brand reflection of a particular product and promoting a different product of the same brand. Ban on such advertising of alcohol products gave escalation to the idea of surrogate advertising in India.

As everything has a double fold effect, so surrogate advertisements on one hand reminds about the original product and on the other side it also conveys a message that the advertisement of alcohol based products are banned because they are harmful for health.

The study was conducted to know the awareness and knowledge of the respondents, what are their buying behavior and how the perceive surrogate advertisements in the Patiala city.

Surrogate Advertising has been a powerful medium through which a particular brand reaches to its consumers. Even though the original products have not been advertised on the television, still the buying level of surrogate products are more. Respondents can easily recall the brand of the surrogate products and majorities are neutral with the perception of ethical concern of surrogate advertisements.

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DIGITALIZATION OF STOCK TRADING: STOCK TRADING APPS AND ITS IMPACT ON STOCK BROKERS

**Subhangi Deka **Silpisikha Kakti*

**Gauhati University, Assam*

***Gauhati University, Assam*

ABSTRACT

With the modernization of most of the aspects of our lives, the financial market also upgraded to Digitalization. We live in the 21st century and it is crucial to walk hand in hand with all the changes that are taking place at present. Stock trading has become more popular in the last decade. Although, in the past it was a complicated procedure to deal with, now digitalization of this platform has become somehow easier for the investors. Earlier stock brokers and financial intermediaries played an important role over individual investors to deal with it. In 1987 Stock market are started digitalization, at that time stock brokers take orders from their clients over the phone But now the ease of access to information technology and internet minimized the role of Middlemen like brokers and financial intermediaries. This chapter simply depicts the evolution of stock market from paper based platform to digitalized platform along with how ease of access information technology and internet minimized the role of financial intermediaries. In India the digitalization phase took a speedy pace after the introduction of stock trading apps. This revolutionary step impacts the financial market as a whole. Facilities like easy opening of electronic accounts for holding financial securities which are called Demat accounts, now common people also started to engage in stock trading with some basic knowledge of stock trading. This chapter presents the overall impact of such technological upgradation upon stock market and stock market intermediaries as well as the investors and the ups and downs of the market transition.

Keywords: Digitalization, financial intermediaries, Stock brokers, Demat account, stock trading apps

INTRODUCTION

Stock trading is currently a major trend in the financial market. It becomes a major aspect for investors who like to participate in the financial market through intermediaries or any other means. We invest in the stock market when we have surplus funds in order to earn some return. Instead of letting the funds sit idle and unutilized stock trading allows investors to allocate such funds properly.

For trading securities a proper platform is required. A platform which provides proper mechanism for buying and selling of any kind of financial securities whether it is shares or debentures. The term stock market simply refers to the marketplace where stocks or shares of companies are bought and sold. In the past stockbrokers gathered under banyan trees to trade stocks or securities. As the number of brokers increased day by day they had to change places and move around different places to trade stocks. And at last, in 1854 they moved to Dalal Street located at Mumbai where the oldest stock exchange of Asia- the Bombay stock exchange is now located. The Bombay stock exchange is the major stock exchange of India and will always remain an important part of the financial system.

Stock trading is done by simply matching the buyers and sellers. To complete the process of stock buying and selling, the help of a middleman or an intermediary is required which is popularly known as Stock brokers. Generally, if the normal people wanted to engage in stock trading they would get a stock broker to complete their bids. There are two types of stock trading which are mainly Active trading and Day Trading. In active trading investors place ten or more trades per month and a day order is an order to buy or sell securities by the end of the day and securities automatically expire at the end of the trading day if not filled.

All early stock exchanges used trading systems that were based upon the 'open Outcry' method of buying and selling. In Open Outcry method trades occur between the people who wish to buy and sell shares. In this method each trader openly negotiates with each other to determine the suitable price for the shares they wishes to

acquire or sell. Though in the Outcry method physical involvement of traders is taking place it becomes extremely chaotic. The Chicago Board of trade (CBOT) is the largest open Outcry exchange in the world. As technology developed most floor system of Trading which is popularly known as Open Outcry exchange into computerized system. The New York Stock exchange (NYSE) is one of the only stock exchanges in the world still functioning on an open Outcry trading system.

Trading procedure on stock exchange:

1. Selection of a broker: First step of Stock trading is selecting a broker who will buy and sell Securities on behalf of the investors. The brokers should be registered under Securities
2. Exchange Board of India (SEBI).
3. Open a Demat account: Second step of stock trading is to open a Demat account. Demat account is an account to hold financial securities in electronic form. In India Demat account is maintained by two depository organizations, National Security depository limited(NSDL) and Central depository Service limited (CDSL).
4. Placing the order: the investors can place an order after opening a demat account. The order should be placed to the brokers either personally or through phone, emails etc.
5. Executing the order: As per the instructions of order brokers execute the order.
6. Settlement: This is the last stage of stock trading. This means actual transfer of Securities.

There can be two types of settlement

- a) On the spot settlement: It means settlement of trading is done immediately and on the spot.
- b) Forward settlement: here settlement takes place in a specific future date.

DIGITALIZATION OF STOCK TRADING

We are currently at a stage of life where every aspect of our lives are becoming digital, be it shopping, travelling, learning or earning. Digital is widely spreading throughout our lives. As every aspect of our lives is encouraging digitalization, the Capital market is also moving towards it. The capital market is solely based on data and it knows the importance of digitalization to improve its efficiency. Going digital in stock markets will be a step towards innovation rather than operations and enablement.

The capital market is transitioning to adopt digital trends to match with other financial sectors such as retail business/ banking etc. The main drivers of digital transformations are Globalization, growth from new geographic markets, the additional convergence of traditional business models etc. Earlier stocks were traded at two different types of market systems such as *Order driven market* and *Quote driven market*. If we look properly into the past the first phase of digitalization or digitization took place in 1987. This was the year when the legendary *Black Monday* took place. The stock market crash of 1987 was the unfortunate event when US stock prices steeply declined over a few days in October of 1987. This affected the US market but also influenced other major world stock markets. This incident paved the way for Digitalization. At that time stock brokers took orders through telephones and sometimes to avoid big losses many brokers refused to pick up phones. This encourages use of electronic trading where an electronic router handles customer orders. This system sabotaged the work of humans so that they could not interfere with orders. The combined effect of this stock market crash and privatization of stock markets fueled the process of digitalization.

After independence, The BSE dominated the stock market by holding a major volume of transactions. It was the sole body engaged with stock trading. But after the Harshad Mehta scam in 1992, the need for another stock exchange that is large enough to compete with BSE was realized. This gave birth to the National Stock Exchange (NSE) in 1992. This was the first stock exchange in India to perform trading electronically. To compete with NSE, BSE also introduced *BSE online trading (BOLT)* in the year 1995 which was an electronic trading system.

Officially, the Indian stock market introduced internet trading (online trading) in February 2002 which brought major changes in the financial system. The first form of online trading enables the investors or users to buy and sell securities without much paperwork. In the past it used to take around 60 days to complete the process of buying or selling of stocks with loads of paperwork. But, after the introduction of online trading, the Indian capital market has gained 1488% exchange turnover in the last 10 years. Online stock trading in India gained major popularity among common people around 2 years ago. Introduction of mobile apps and websites and other computer based platforms makes it easier for normal people to engage in stock trading.

STOCK TRADING APPLICATIONS

Although online trading was introduced decades ago, Introduction of Stock trading applications catalyzed major changes in the stock market. Now, users can invest in the stock market, engage in stock trading by merely holding a mobile phone or tablet or laptop. No need to involve brokers or other third parties physically. This paperless transaction system reduced manipulations of stock transactions to a greater extent.

Individuals other than certified and qualified institutional buyers and sellers can easily interact with the stock market through *android or IOS* market apps. Such types of apps are generally created and developed by Depository Participants such as brokers. These apps allow the users to access the stock market, analyzing stock prices or groups of stocks, portfolio of stocks as well as to open their *Demat account*. The stock trading applications also enable the users to track stock price trends, hedge against probable losses and even customize their purchases and sales through GTTs. Android provides various stock trading apps which have grown so much in a short period of time. Now a person only needs to pick an app and depository participant that suit their investment needs. However, there are certain points that should be kept in mind while selecting trading apps-

- Always opt for an application that allows the user to open an account seamlessly and provide an appropriate closure process. If it do not provide such terms then the user might find himself paying unnecessary charges if he is not using the app actively.
- Various apps provide an extensive list of features. Sometimes most of them are unnecessary for a user. So, the user should ensure what features or services he needs to attain his financial goals.
- Using stock trading apps may incur some charges such as Account maintenance charge (AMC) and transaction charges. So the user should compare apps which charges reasonable fees for trading securities.

Some of the major stock trading apps that are well known in India along with their ranking are given below. These are some of the best stock trading apps of India. They played a major role in growing the stock market by targeting the general public who wants to invest in stocks.

| Rank | Trading Platform | Performance Ratings |
|-------------|--------------------------|----------------------------|
| 1 | Zerodha Kite | 9.8/10 |
| 2 | Upstox Pro App | 9.4/10 |
| 3 | Angel Broking Mobile App | 9.0/10 |
| 4 | 5Paisa Mobile App | 8.9/10 |
| 5 | Fyers Market App | 8.8/10 |

(Source: Internet)

- **Zerodha kite-** country's top trading app by Zerodha, available at both android and IOS platforms. It provides quick buy and sell, refined easy user interface, real time market analysis, multi exits on trade options etc.
- **Angel broking Mobile app-** it provides features for investors who prefers to trade on the go. It has amazing features which makes it smoother. It provides live streaming of stock quotes, charts and market information.
- **IIFL markets-** provide great investment ideas that help them in making right decisions. It involves best features, options to invest in BSE, NSE, NCDEX, and MCX etc. Provide research information on 140 listed companies.
- **Upstox PRO trading app-** it was previously known as RKSV securities and emerged from Mumbai. It provides features like trade straight from charts with the Trade from Charts (TFC) Feature.

And there are other apps also such as 5 paisa mobile trading app, FYERS markets mobile trading app, HDFC securities mobile trading app, Kotak stock trader app etc. These apps bring about major impacts in the financial market. Now, the stock market is transformed completely into a technology based market where the participants can engage in trading with the help of these apps, from remote places also.

IMPACT OF TRADING APPS ON STOCK BROKERS AND THE STOCK

Affordability of smartphones and Internet service makes the greatest change in the stock trading and investment market. Due to the affordability of smartphones and internet service, so many trading apps and software are come out which minimizes the role of brokers. Nowadays stock trading is possible without any brokers but earlier it was an impossible task to do stock trading without brokers. Knowledge of financial markets, transactions, and trading is infinite. Even the most experienced investors and brokers also faced some challenges during trading but nowadays online application related to stock trading is an easy solution for those challenges.

Online trading apps are created such that every common investor can trade easily without any brokers. Trading apps created a huge impact on the role of brokers. Due to affordability of internet and smartphone people are also aware of stock market. Earlier people has not much access with the information about stock market so they seek helps of brokers. But present days every information is available here and there, because of easy availability of information from internet. People are avoiding using third party on their transaction.

Mobile Trading allows individuals to become traders and investors not only from their home but also from anywhere from the world with an Internet connection. Smartphone seems to be the most convenient and cheapest way for most people to trade. Almost all brokerage firm have their own trading application with are being monitored by the in house technical teams. Because these piles of trading apps present days stock trading becomes easier to place order, live market report, instant notification facility etc.

CONCLUSION

Stock trading is Major trend in the financial market. Stock trading becomes the primary aspect of the people who like to participate in the financial market. Stock trading is nothing much, it is simply buying and selling of stock in the financial market with the help of brokers and financial intermediaries. Although online trading was introduced decades ago, Introduction of Stock trading applications catalyzed major changes in the stock market due to advancement of technology and affordability of the internet. The whole scenery of financial markets changed along with stock trading. Stock trading has now become digitalized and most importantly so many brokerage firms and other financial intermediaries came out with an advanced initiative of creating Mobile trading applications. Stock trading apps are easy to use and so many advanced facilities are there that everyone can easily understand the features of the app and easily trade in the financial market. These apps allow the users to access the stock market, analyzing stock prices or groups of stocks, portfolio of stocks as well as to open their *Demat account*. As it changes the dynamics of traditional stock trading, it impacts the brokers and intermediaries as well as normal public also. Easy accessibility of information related to the stock market through the internet may minimize the role of brokers and other third parties. Trading apps created a huge impact on the role of brokers. Earlier brokers had the most important role in trading but at present with the emergence of online apps

the role of trade brokers is minimized. However, the brokers are still engaged with stock trading through apps as such apps also provide consultancy services and other advisory services. Earlier their role was tangible but at present they offer their services through such apps without any visible connection with the users. Overall, digitalization of stock trading brings about a new era in the financial markets and will be able to bring more economical growth to the country.

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VIOLENT BEHAVIOR AGAINST WOMEN IN INDIA: AN ANALYSIS

**Yuvaraja U **Maheshbabu N*

**Assistant Professor, Department of PG Studies in Economics, Sri Dharmasthla Manjunatheshwara College (Autonomous), Ujire-574240, Belthangady Taluk, Dakshina Kannada District, Karnataka, India, ,*

***Assistant Professor, Department of PG Studies and Research in Psychology, Sri Dharmasthla Manjunatheshwara College (Autonomous), Ujire-574240, Belthangady Taluk, Dakshina Kannada District, Karnataka, India*

ABSTRACT

Deletion of the violence against women is most important for achieving SDG fifth goal of gender equity and empowerment of women. The concept of women's empowerment is still fresh, it is treated the most required tool for the sustainable development of human resources. Mahatma Gandhi states that "the position of women the society is an index of its civilization". Woman is an incarnation of 'Shakti'—the Goddess of Power. If she is bestowed with education, India's strength will double. Existing data on violence against women from the source of NCRB of India reveals the fact that violence against women continues to be a national pandemic in these days. It has been observed that 'Cruelty by husband and relatives' continues to be the highest recorded crime against women (33%) followed by 'assault on women with intent to outrage her modesty' (25%) in 2016. Our constitution has offered equal opportunities to everyone and motioned the principle of gender equity in its Preamble. But there are huge challenges - socio-economic and religious- in the way of achieving equality in India. Empowerment may be defined as a procedure which helps the socially and economically backward people to assert their control over the factors which affect their lives. Empowerment of women means respect their choices, voices, desires and commitments and offer equal independence as to male. This paper is intended to analyse the violence against women in India. The present study is purely based on secondary data and planned to use 10 years data (from 2009 to 2018) of crime against women for analysis.

Key Words: *Women Empowerment, Domestic Violence, Crime, Rape, Kidnapping, Molestation,*

1. INTRODUCTION

The UNDP's (HDR1995) conceptualization of empowerment has generated a lot of debate over gender empowerment and its measuring tools. The concept of women's empowerment is still fresh, it is treated the most required tool for the sustainable development of human resources. The feminization poverty has further victimized women with more dependents on their male counterparts. Unequal time burdens have put the girl children in the domestic arena, which are economically not paid. The patriarchal system of the society has again put the most orthodox social norms and traditions against women, which unless treated with the right educational and knowledge strategies, would prove most hazardous for women's empowerment. Indigenous women are significantly more likely to experience rape than non-indigenous women and more than one in three indigenous women are raped during their lifetime¹.

As per Census 2011, the population of India was more than 12² Crore with 48.5 per cent females, 949 female to 1000 males in rural India against 929 females to 1000 males in urban India. The highest female literacy rate has registered in Kerala (92.1%) followed by Mizoram (89.3%) and Lakshadweep (87.9%). As per NSS 71st Round, the rural literacy rate for females was 56.8 as compared to 72.3 for males. For urban population, the literacy rate for females was 74.8 as compared to 83.7 for males. As per Census 2011, the workforce participation rate for females was 25.51 per cent against 53.26 per cent for males. Rural sector has a better female workforce participation rate of 30.02 per cent as compared with 53.03 percent of males whereas for urban sector. NSS 68th round, the casual wage rates were 201.56 and 322.28 per day for females and males in rural areas, whereas for

urban, the average wages are 366.15 and 469.87 for female and males respectively. It has been observed that 'Cruelty by husband and relatives' continues to be the highest recorded crime against women (33%) followed by 'assault on women with intent to outrage her modesty' (25%). Constantly, 7 percent of the total cognizable crime falls under the category of crime against women in 2016. There has been gradual increase in crime committed against women in Rape, Kidnapping & Abduction and assault on women with intent to outrage her modesty. As reported by NCRB, in 2016, 67% of the total crime cases against women have been disposed-off by police during 2016. The highest disposal to the extent of 75 per cent cases for investigation is in respect of protection of women from Domestic Violence Act 2007.

In 2016, total crime rate against women per lakh women is highest reported for Delhi at 160.4 followed by Assam at 131.3. The lowest total crime against woman was reported in Nagaland (9.2%) followed by Puducherry (12.8%) and Tamil Nadu (12.9%). In 2016, the highest number of rape victims was reported in Madhya Pradesh with 4908 followed by Uttar Pradesh with 4817. As percentage of rape victims at national level, Madhya Pradesh and Uttar Pradesh have share of 13% and 12% respectively. The incidence of suicide per lakh population has declined from 11.2 in 2012 to 11.0 in 2013 and it further reduced to 10.6 during 2015. For males, the incidence of suicide per lakh population has recorded some increase from 13.8 in 2014 to 14.0 in 2015, while among female, the rates have declined from 7.1 per lakh in 2014 to 6.9 per lakh in 2015. During 2015, the number of suicides committed by female was reported as 42088 while number of suicide committed by man was reported as 91528. Percentage of suicides during 2015 was highest reported at 67 per cent and 71 per cent among the married persons, for female and male respectively. The percentage of suicides by unmarried persons for female and male was relatively low at 23 per cent and 20 per cent respectively. The percentage share of rape (Sr. 376 IPC) has increased by 12 per cent in 2016 as compared to 2015. Insult to the modesty of woman has declined by 16 per cent in 2016.

2. LITERATURE STUDIES

Past sources of crime against women have assisted the researchers in having evident knowledge about the research problem selected for the study. Issues relating to the crime against women, women and empowerment, role of constitution have reviewed. Studies which have conducted earlier have certainly helped for the researcher to identify the research gap.

As per the 2012 NCRB statistics, New Delhi has the highest number of rape-reports among Indian cities, while Jabalpur has the per capita incidence of reported rapes (Bhawana Dayal and Neetu Singh-2014). Data shown that rape cases in India have doubled between 1990 and 2008. Added to this number of kidnappings and abductions of women and girls have jumped a whopping 163.8 per cent from 2002 to 2012. Moreover, the NCRB statistics indicated that an Indian woman were most unsafe in her marital home with 43.6 per cent of all crimes against women being "cruelty" inflicted by her husband and relatives³. Asis Kumar Ray et.al. (2015), pointed out that irrespective of the educational status, the women are frequently assaulted by their husbands. However, in the illiterate group there is every chance of un-reported cases against the brutality due to lack of their knowledge about their rights and law. Added to this the incident is low in higher educated women groups as compared to low educated groups⁴. Mamata Mokta (2014), discussed about the various efforts made by the central government for empowering women by analyzing position of India in Gender Inequality index and Global Gender Gap Index of United Nations. Thus, she opined that there is a gap between the formal idea of men and women participation and their meaningful use of power in political houses⁵.

Partha Sarathi Mallik (2019), opined Vedic period was the golden time where the conservative gender differentia attitude or practices were hardly found. Due to religious and other social problems like, poverty, caste system, the situation becomes worse after post independence period. Although several constitutional measures or different plane or policies taken by government, till date their social status has not changed. So they suggested that along with the Government efforts, NGOs should voluntarily come forward for empowering the women in India⁶. Yoginder Singh (2013) stated that women constitute fifty percent of the world population and they suffer many disadvantages as compared to men in terms of literacy rate, labour participation rates and earnings. Added to this, he stated that the major strategies for women empowerment include social empowerment, political empowerment and for the rural women, economic empowerment can be harvested

through the concept of Self-Help Group based on group approach to rural development⁷. Khushboo Singh (2016) analyzed the impact of education on empowerment of women. Further, she traced out the challenges and changes in women education in India over the period⁸.

Impacts of education on women irrespective of cast, Creed, religion and gender is discussed by Nabanita Bera (2016). Added to this, he stated that education is a basic human right which moving women from a weak position to strong position by the way it decisively contributes to national development⁹. Rajeswari M Shettar (2015) analysed the status of women empowerment in India and highlights the issues and challenges of women empowerment. Further, she also find out that empowerment of women has become one of the most important concerns of 21th century¹⁰. Women education is most powerful tool to change the women position in society. Further; education also brings a reduction in inequalities and function as a means of improving their status within the family (Suguna-2011)¹¹. Dhruva Hazarika (2011) Women constitute about 50 per cent of the world's total population but India has shown disproportionate sex ratio. Added to this, researched showcased that before independence woman social status had worried and they were not treated as equal to men in all the places but the condition has improved after the independence in this respect¹².

3. THE PAPER

The present study is analytical in nature. This study is completely dependent on secondary data for its analysis. The published sources like journals, books, periodicals, government reports, magazines, daily news papers and so forth have been employed for the study. Particularly, various years annual reports regarding Crime in India, published by National Crime Records Bureau, Ministry of Home Affairs, and Government of India, used for the study. Recent information regarding the issue is collected from internet sources. The present study covers only the social obstacles like rape. Kidnap, molestation, sexual harassment, Dowry deaths, cruelty by husband and relatives and same for its analysis.

Table-01: Share of the crime incidence against among the different heads in India

| India | Rape | Kidnapping | dowry deaths | Cruelty by husband and relatives | Molestation & sexual Abuse | others | Total number of Incidence |
|-------|-------------------------|-------------------------|------------------------|----------------------------------|----------------------------|-------------------------|---------------------------|
| 2009 | 21397 (10.50) | 25741 (12.64) | 8383 (04.11) | 89546 (43.93) | 49720 (24.40) | 9017 (04.42) | 203804 (100) |
| 2010 | 22172 (10.39) | 29795 (13.95) | 8391 (03.92) | 94041 (44.02) | 50574 (23.69) | 8612 (04.03) | 213585 (100) |
| 2011 | 24206 (10.59) | 35565 (15.55) | 8618 (03.77) | 99135 (43.35) | 51538 (22.54) | 9588 (04.20) | 228650 (100) |
| 2012 | 24923 (10.20) | 38262 (15.66) | 8233 (03.37) | 106527 (43.62) | 54524 (22.32) | 11801 (04.83) | 244270 (100) |
| 2013 | 33707 (10.89) | 51881 (16.76) | 8083 (02.62) | 118866 (38.40) | 83328 (26.91) | 13681 (04.42) | 309546 (100) |
| 2014 | 36538 (10.76) | 57311 (16.88) | 8455 (02.50) | 122877 (36.20) | 101317 (29.84) | 12959 (03.82) | 339457 (100) |
| 2015 | 34651 (10.38) | 59277 (17.76) | 7634 (02.29) | 113403 (33.98) | 106463 (31.90) | 12318 (03.69) | 333746 (100) |
| 2016 | 38947 (11.30) | 64519 (18.74) | 7621 (02.21) | 110378 (32.05) | 111090 (32.35) | 11897 (03.45) | 344452 (100) |
| 2017 | 32559 (9.05) | 66333 (18.43) | 7466 (02.07) | 104551 (29.05) | 117669 (32.70) | 31271 (08.70) | 359849 (100) |
| 2018 | 33356 (8.82) | 72751 (19.23) | 7166 (01.90) | 103272 (27.30) | 125906 (33.28) | 35826 (09.47) | 378277 (100) |

| | | | | | | | |
|--|--------------|---------------|---------------|--------------|---------------|---------------|--------------|
| % Growth Over 2009 | 55.90 | 182.62 | -14.51 | 15.32 | 153.23 | 297.31 | 85.60 |
| <p>Note: 1). \$=(Immoral Traffic (P)A ct, Dowry deaths , Importation of Girls Act, Satiprew, Dowry Prohibition Act, 1961 Act, IND. REP. of Women (P) Act, (importation of girls, sati prev. act, ind. rep. of women (p) act,)</p> <p>2). Figures in brackets are the percentage to total</p> <p>Source: Various years Crime in India statistics, (2018,2016, 2014) National Crime Records Bureau, Ministry of Home Affairs, and Government of India</p> | | | | | | | |

3.1. Crime against women (2009-2018)

Violence against women generally refers to violence that affects or affects women. Sometimes, this behavior refers to a crime of a specific gender. Violence against women is gender-discriminatory, that is, the perpetrator commits violence to women because the target of violence is women in society. Violence against women and girls is a common problem. More than one-third of women in the world have experienced violence to varying degrees, including beatings, rapes, and violence by people they know. Violence against women can include violence committed by individuals and violence committed by the state. Methods of violence committed by individuals include rape, domestic violence, sexual harassment, forced use of contraceptives, drowning of female infants, prenatal gender selection, violence during pregnancy, and crowd violence. In addition, some bad traditions and customs are also acts of violence against women, such as honour murder, dowry violence, and female genital mutilation, fraudulent and forced marriages. Information regarding consolidated view of the crime against women in India has provided in table-01. Data in Table-01 revealed that since 2009 crime against women in India has augmented continuously. Total number crime against women has increased from 203804 in 2009 to 378277 in 2018 and registered about 85.60 per cent of the decadal growth.

3.2. Rape

Forcible rape is constituted as a growing social problem in India. A variety of the feminists/thinkers/ societal interest groups have expressed the increasing concern about forcible rape in India. Anti-rape and rape prevention acts are encompassing for the women protection, and they succeeded to abate the rape incidents, but such laws failed to eliminate rape incidents from the Indian society. According to latest available statistics from NCRB, the country had a reported rape rate of 5.2 per 100,000 people and an estimated 91 rape cases were reported daily as of 2018 in India. Added to this incidence of rape vary widely from rural to urban areas across Indian stats. In 2018, statistical data showed that 1 rape was reported every 15 minutes in India. It is evidenced from the table-01 that rape cases in India have registered about 55.90 per cent of growth during last one decade (2009-2018). Added to this, the share of the rape cases in total crime against women was about in the range between 10 to 11 per cent in between 2009 and 2016, and then registered about 9.05 and 8.82 per cent share in 2017 and 2018 respectively. As of 2018, Madhya Pradesh had registered the highest number of rape incidents among Indian state and Delhi has continued to have the highest incidence of rape per capita among metropolitan cities. It is really important to note that of the total number of crime against women, rape cases have shown declining trend since 2017 in India. Decreasing share of rape cases in India may be the fruit of central government passed new law against rapists. Abatement of incidents of rape against women/girl in India is possible only when people got the self realization about causes of victims of women/girl.

3.3. Kidnapping

Kidnapping is not a new problem of India, and it is one of the countries, biggest challenge. India is facing several problems like unemployment, poverty, corruption, low percentage of education and so on but it is kidnapping that has drawn the world's attention. There are many reasons for kidnapping including poverty, unemployment, religion, politics, corruption, greed, illiteracy, money and prostitution and begging, and so on. Every year millions of children, men and women are kidnapped across the world. In most of the metropolitan cities child trafficking is the illegally running business in India. Of the total crime against women, women

trafficking share has increased from 12.64 per cent in 2009 to 16.88 per cent in 2014 and stood at 19.23 per cent in 2018 in India. Women kidnapping cases in India continuously increased since 2009 and registered about 182.62 per cent of growth in 2018. There are several negative effects of kidnapping including psychological and fear and lack of trust. The negative psychological effects like anxiety, stress depression, may last a lifetime of person particularly child. People in a society always move with caution and rich may use security guards because of their fear of getting kidnapped. This problem can be minimized by creating huge employment opportunities, training strong anti-kidnapping agents, increasing of literacy level, strict monitoring of the kidnapping activities by police, serious punishment for culprits, and enhancement of existing anti-kidnapping laws and so on.

3.4. Dowry Deaths

Dowry refers to the transfer of the money, parental property, gold, Silver, clothing, furniture, vehicles and others from the bride (women) house to the groom (men) house when the woman gets married or after the sometime of wedding by the woman or her family. The opposite concept is the bridegroom's wedding gift to the wife's family. In some parts of the world, mainly in some parts of Asia, North Africa and the Balkans, dowry is still a condition for people to expect and demand dowry. The dowry has a long history in Indian Stats. In most of the Stats of India, disputes related to dowry, most of the times, lead to violence against women, including killings and acid attacks. So, how hard is it to marry a girl in India? First of all, it is related to the man's family conditions. A family will/can save enough wealth for daughter marriage by leading adjustable life. Of course, the man's personal qualifications are also the key to asking for a dowry. Firstly, if the groom is more excellent, especially if he has a higher education, is engaged in a civil servant or a high-paying profession, the more dowries he needs. Secondly, it has to do with the degree of strangeness of the man's family. If the bride family fails to meet the requirements, the marriage will be canceled, or the man will marry someone home unwillingly. Dowry deaths were highly sounded up to end of twentieth century in India. Dowry related deaths have declined from 8383 in 2009 to 7166 in 2018 and registered about 14.51 per cent of negative growth during the last one decade in India. Thus, of the total number of crime against women in India, dowry related deaths share has declined from 4.11 per cent in 2009 to 2.29 per cent in 2015 and stood at 1.90 per cent in 2018. Dowry prohibition act was enacted on 1st May 1961 with the objective of preventing to give and receive of dowry. At initial stage this act was seemed like paper tiger because of poor implementation. But when more and more people got education particularly women, dowry probation act has strengthened more in India and also succeeded to minimize such incidence.

3.5. Cruelty by Husband and Relatives/domestic violence

Domestic abuse, also known as "domestic violence" or "intimate partner violence", or cruelty by husband and relatives can be defined as a mode of behavior used to obtain or maintain strong suppression and control of an intimate partner in any relationship. Abuse refers to behavior that affects others physically, sexually, emotionally, financially, or psychologically. This includes any act of intimidation, compulsion, intimidation, manipulation, pain, humiliation, scolding, harm to others, or injury to others. Domestic violence will happen to anyone regardless age, religion, race, gender. It may appear in a variety of relationships, including couples, common-law partners, or dating lovers. Domestic violence affects everyone regardless of their socioeconomic background or education level. Victims of domestic violence may also include children or other relatives or any other family members. Domestic abuse is very high among the some types of crimes against women in India. Here we provide a decade data regarding domestic violence against women in Indian society. It is evidenced from the data that of the total crime against women, domestic violence or cruelty by the husband and relatives on women stood at first position in all the years. Statistically say, of the total crime against women, domestic violence share was high of 44.02 per cent in 2010 and low of 27.30 per cent in 2018. It is really important to note that over the last one decade the domestic violence share in total crime against women has declined in India but the number of domestic violence cases has increased from 89546 in 2009 to 103272 in 2018 and registered about 15.32 per cent of growth.

3.6. Molestation / Sexual abuse

Sexual harassment refers to the use of sexually indicative words or actions to target the harassed object, forcing the victim to cooperate and making the other party feel unhappy. There is no gender restriction; any gender can be victims of sexual harassment. According to the classification of behavior, sexual harassment can be divided into verbal sexual harassment, behavioral harassment, and environmental sexual harassment. Verbal sexual harassment refers to any person making sexual remarks that embarrass the victim or make the victim feel uncomfortable, such as telling pornographic jokes in person or in public or criticizing the victim with filthy language. Behavioral harassment generally refers to making vulgar and indecent actions that make the victim uncomfortable, manipulating the victim's hands, touching sensitive parts of the victim's body, etc. Environmental sexual harassment refers to the discomfort and violation of victims by setting up the environment, such as placing sexually stimulating pictures, obscene publications, and broadcasting obscene audio and video products. Incidences of sexual harassment and molestation cases have day by day increased in India. Sexual harassment and molestation cases have extremely noticed in occupational places, campuses and recently from online platforms in India. In India, total number of sexual abuse cases have increased from 49720 in 2009 to 125906 in 2018 and registered about 153.23 per cent of decadal growth. Even though existing of rigid anti sexual and molestation regulations in India, numbers of sexual abuse cases have increased continually from last one decade in India (2009-2018). Of the total number of crime against women in India, sexual abuse and molestation cases share has increased from 24.40 per cent in 2009 to 31.90 per cent in 2015 and stood at 33.28 per cent in 2018.

CONCLUSION

Violence against women is a social and legal problem across the globe. From this analysis it is clear that crime against women has increased year by year in India. Increasing population along with the poverty, unemployment, and lack of education are the prominent factors for the augmentation of crime rate against women in India. Despite provision of strong decrees in the Indian constitution, crime against women is still high and its trend went up year by year. The procedural laws are weak in implementation and some laws are outdated. This results in delay of the decision of cases. Generally the accused either get the anticipatory bail or make the adjustment deal. So, central government should have to take the steps for the proper implementation of existing regulations and courts should speed up the judicial process. Effective implementation of the laws should be frankly discussed through organizing seminars, conferences and workshops and their outcome should be put forward so that new law be passed an amendment could be made in existing laws to make them more effective. It is really sad to say that nearly 60 per cent of the registered women harassment cases have directed by the relatives, husband and work places. So, awareness should be created among the people in order to reduce the crime rate particularly in family and workplaces. Every woman is allowed to live a fear free life. And it's everyone accountability to build a society where a woman is able to live with self-respect. Just constitutional writings are not enough to protect women in India. What is required is a social and economic freedom to women to resist such acts and building a society where men respect women.

FOOT NOTES

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AWARENESS AND PERCEPTION OF CRYPTO CURRENCY -A CASE STUDY IN GUWAHATI CITY

**Dipak Jain*

**Assistant Professor, Department of Business Administration, NERIM Group of Institutions, Guwahati*

ABSTRACT

The aim of this research is to examine the awareness and perception of crypto currency among common people in Guwahati city. The rationale behind choosing this research topic is that the concept of crypto currency in India has gained attention of the economists, policy makers & the marketers, as still there remains a considerable untapped potential among common people of India. The research has been conducted to answer few important questions on the awareness and perception of the crypto currency among common people in Guwahati city, to know about their perception behind investing in crypto currency.

Key Words: *Crypto currency, investment, awareness and perception*

INTRODUCTION

Virtual money has become popular at different times in the history of contemporary human beings. The number of people using crypto currencies today has experienced significant growth and is comparable to the populations of some small countries. In its simplest form, a crypto currency can be considered as a digital asset built to function as a medium of exchange based on cryptographic technology to ensure the transactional flow, as well as to control the creation of additional monetary units. This growth has translated into an aggregate daily trade volume of crypto currency exchanges of more than USD 391 billion. Cryptocurrencies are newly developed financial assets, they are all digital and use cryptography. These Cryptocurrencies represent real monetary value in the market. First crypto currency ever created was Bit coin and it was developed by a anonymous person using an alias as Satoshi Nakamoto in 2009. He announced Bit coin firstly in a cryptography forum. Following the first cryptocurrency, more than 1.500 alternatives have been created and these alternatives are called as altcoins. However, the world of Cryptocurrencies does not end here because there are almost 3750 alternative Cryptocurrencies. So this exponential growth shows the great interest in virtual currencies. However, there are various factors of intention to use Cryptocurrencies.

Therefore, our main objective is to determine the main factors which are considered by the investors while investing in crypto currency.

REVIEW OF LITERATURE

Cryptocurrencies are digital currencies which have been created digitally and crypto graphed by using strong cryptography techniques. Cryptocurrencies can be used as an exchange medium in financial transactions and these transactions are under control of crypto currency's own network.

(Chohan, 2017). Bit coin and other types of Cryptocurrencies use network protocols called block chain. Blockchain can be defined as a mechanism for a distributed network of computational nodes to periodically agree on a set of new transactions

(Swan, 2015; Yli-Huumo, Ko, Choi, Park, & Smolander, 2016). Coins nature is highly complex and contains many different features to discover. And these complex structure have not been fully researched yet

(Phillip, Chan, & Peiris, 2018). The birth did not only lead to a new digitalization movement in the payments sector, but also it launched a new type of innovative technology based on decentralized digital currencies.

(Glaser & Bezenberger, 2015). The nature of blockchain technology allows decentralized networks. These decentralized networks are owned by no one. Bitcoin is the market leader since 2009 in cryptocurrency market

with its 52% and decreasing market share. It is a purely peer-to-peer version of electronic cash which would allow online payments to be sent directly from one party to another without going through a financial institution (Nakamoto, 2008). It is considered as the first Cryptocurrencies which uses the block chain technology. After bit coin, more than 1,500 altcoins and crypto-tokens were created. Some of them survived to date. Each day, new Cryptocurrencies have been created and only few of them stay alive

RESEARCH OBJECTIVES:

The research has been conducted with the following objectives :

1. To know the awareness of crypto currency among the investors.
2. To know the preference of crypto currency options by the investors.
3. To identify the factors considered by investors while investing in crypto currency.

RESEARCH METHODOLOGY

Research methodology for the proposed research is following us-

- **Type of Research** - This research is both descriptive and exploratory in nature.
- **Research approach**- Observation and survey technique were the basic approach used in order to know the response of common people/investors.

In view of the objectives of the study, the methodology used in this research is elaborated below:-

- **Data collection tools**- Both quantitative and qualitative data collection tools are used in this research
- **Sampling Procedure** - The sampling procedure followed in this study is non probability convenient sampling.
- **Sources of data**- Both primary data and secondary data is used in this research.
 - a) **Primary Data**- A structured questionnaire was prepared and the primary data was collected through survey method.
 - b) **Secondary Data**- magazine, journals, newspapers, articles, e-journals and different websites.
- **Questionnaire design**- Primary data were collected with the help of a well framed questionnaire. Questions were short, simple and precise with multiple choices; ranking and open ended were used to achieve the desired objective.
- **Sampling size**-The study is based upon 76 samples comprising the randomly selected common people/investors that have surveyed within the study period.
- **Periodicity of the study**- The study was conducted between January to July 2021.

INTERPRETATION:

GENDER WISE CLASSIFICATION OF INVESTORS

TABLE-1.1

TABLE SHOWING GENDER WISE CLASSIFICATION OF INVESTORS

| Gender | No. of respondents | Percentage of respondents |
|---------------|---------------------------|----------------------------------|
| Male | 51 | 67.10% |
| Female | 25 | 32.90% |

(Field survey data)

INTERPRETATION:

From the above table it is found that the gender wise classification of the investors shows that 61.10% of the respondents are male and 32.90% of the investors are female.

AGE WISE CLASSIFICATION OF INVESTORS

TABLE-1.2

TABLE SHOWING AGE WISE CLASSIFICATION OF INVESTORS

| Age(in years) | No. of Respondents | Percentage of respondents |
|----------------------|---------------------------|----------------------------------|
| Below 18 | 3 | 3.94% |
| 18-25 | 36 | 47.36% |
| 25-45 | 25 | 32.89% |
| 45-55 | 10 | 13.18% |
| Above 55 | 2 | 2.63% |

(Source: Field survey data)

INTERPRETATION:

From the above table it is found that the age wise classification of investors shows 3.94% of the investors are below 18 years, 47.36% investors are between the age of 18-25 years, , 32.89% investors are between the age of 25-45 years, ,13.18% investors are between the age of 45-55 years and , 2.63% investors are above the age of 55 years.

FACTORS WHICH MOTIVATE IN INVESTING IN CRYPTO CURRENCY

TABLE-1.3

TABLE SHOWING FACTORS WHICH MOTIVATE IN INVESTING IN CRYPTO CURRENCY

| Factors | No. of investors | Percentage of investors |
|---------------------------------------|-------------------------|--------------------------------|
| Profitability | 27 | 35.52% |
| Convenient to buy | 19 | 25% |
| No minimum investment required | 18 | 23.68% |
| High volatility | 12 | 15.78% |

(Source: Field survey data)

INTERPRETATION:

From the above table it is found that the factors which motivate in investing in crypto currency shows 35.52% of the investors are motivated by the profitability factor, followed by 25% investors are motivated the convenient to buy factor, 23.68% are motivated by the no minimum investment required factor and 15.78% are motivated by high volatility factor.

FACTORS WHICH DEMOTIVATE INVESTING IN CRYPTO CURRENCY

TABLE-1.4

TABLE SHOWING FACTORS WHICH DE MOTIVATE IN INVESTING IN CRYPTO CURRENCY

| Factors | No. of Respondents | Percentage of Respondents |
|------------------------------------|---------------------------|----------------------------------|
| Risky | 16 | 15% |
| Lack of knowledge | 18 | 17% |
| Lack of regulation and supervision | 22 | 21% |
| Cyber security | 28 | 27% |

(Source: Field survey data).

INTERPRETATION:

From the above table it is found that the factors which demotivate in investing in crypto currency shows 15% of the investors are demotivated by the risky factor, followed by 17% investors are demotivated the lack of knowledge factor, 21% are demotivated by the lack of regulation and supervision factor and 27% are demotivated by cyber security factor.

PREFERENCE OF CRYPTO CURRENCY OPTIONS BY USERS AND CUSTOMERS

TABLE- 1.5

TABLE SHOWING PREFERENCE OF CRYPTO CURRENCY OPTIONS BY USERS AND CUSTOMERS.

| CRYPTO CURRENCY | RANK | NO. OF RESPONDENTS | Percentage of Respondents |
|------------------------|-------------|---------------------------|----------------------------------|
| BIT COIN | 1 | 35 | 46.05% |
| RIPPLE | 4 | 6 | 7.89% |
| ETHEREUM | 2 | 20 | 26.31% |
| CARDENO | 3 | 15 | 19.73% |

(Source: Field survey data)

INTERPRETATION:

From the above table it is found that the preference of crypto currency options by users and customers. Shows that 46.05% of the investors rank 1 to bit coin, followed by 26.31% to ethereum as rank 2, 19.73% to cardeno as rank 3 and lastly 7.89% to ripple as rank 4.

CONCLUSION

The respondents were asked to answer the various questions through the questionnaire, on the basis of which some conclusions can be drawn. From this research, it can be concluded that majority of the respondents between the age group of 25- 45 years prefer investing in Cryptocurrencies. From the study it is also concluded that the percentage of male investors investing in Cryptocurrencies is more than that of the female investors. From the study it is also concluded that majority of the investors are motivated by the profitability factor, followed by the convenient to buy factor. It is also concluded that majority of the investors are demotivated by lack of regulation and supervision factor. Lastly it can be concluded that majority of the investors rank bit coin to be their first preference. So finally from the study it can be concluded that young generation investors are more into investing money in the Cryptocurrencies.

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IMPACT OF EXCESSIVE SCREEN TIME ON CHILDREN

**Priya Sachdeva*

**Associate Professor and School Coordinator, School of Media, Film and Entertainment,
Sharda University*

ABSTRACT

In modern times, one does not use technology, they live with it. Interacting with technology has taken a massive turn and people are seen to be interacting with it both intellectually as well as emotionally. As and how the popularity of both the internet and digital devices increase, so does the concerns about its excessive use by both children and adults alike. The issue of excessive screen time is now worth drawing upon considering the way Covid-19 pandemic intensified the use of the same. The given chapter takes into account the, psychological, social, emotional, and cognitive impact of excessive screen time on the minds of children. Here, children have been kept as the focal point given how their screen time has increased substantially during the Covid-19 lockdown. Although even before Covid, the fact that the newer generations have been exposed to technology and other digital devices more than ever is something that cannot be ignored, which is why it has become essential to understand the impacts of this exposure on the lives and well-being of these children. Hence, this chapter would put light upon the impact excessive screen use has on children. It would also highlight recommendations on how this situation can be effectively tackled, along with how the future is looking for both the children and parents when it comes to creating a balance between screen exposure and physical and mental stimulation.

Key Words: *Covid-19, peer pressure, digital screen time, exposure, digital media, technology, internet addiction*

1.1 INTRODUCTION

*“I like my new telephone, my computer works just fine, my calculator is perfect, but Lord, I miss my mind!”-
Unknown*

Speaking of the constructs of a civilized and modern society, technological innovations have brought about great rewards which have eventually led to the widespread use of portable electronic as well as screen media devices. Today, gadgets like smartphones have become indispensable in the lives of people because of how versatile they are. With the help of this smartphone, a variety of purposes like communication, entertainment, leisure, social networking, navigation, etc can be fulfilled. The Technology Acceptance Model or TAM also states that smartphone sale is on a rise owing to how trendy, light-weight, user-friendly, and multi-functional they are. The most important thing about technological advancement is the fact that it has given a professional as well as personal edge to the lives of people. Along with this, there have been studies that have shown how students are now using these smartphones more than ever and that it is helping them to gain access to educational sources, better communication, and research. However, these benefits do not trump the plethora of negative impacts that these technological devices have on people especially on the young ones. Today, the debate about the psychological impacts that smartphones have on children is a common feature of modern-day societal conversations. The main topic of concern remains the fact that screen time harms the psychosocial well-being, health, and behavior of children. Research has also shown a negative relationship between screen time as well as the well-being of individuals. The reason why this screen time is on the rise is because of the increased dependency of people on the internet. This excessive use of the internet has coined the term “Internet Addiction Disorder”. This use of the internet is possible through all platforms such as smartphones, laptops, tablets which are all digital screens that come in varying sizes. When it comes to the health of the children, physicians are regularly seeing children who have been affected by technology overuse in some or another way. Hence, the given chapter would take into account the impacts that excessive screen time has had on children and students in specific. It would highlight the different aspects of children’s life which are getting impacted due to the overuse

of screens and technology. Hence, the pattern between the use of smart devices and the related health hazards would therefore be highlighted in the given chapter.

1.2 LITERATURE REVIEW

1.2.1 Enhanced screen-time during Covid-19

Screen time refers to the time that people tend to spend in front of the screen. However, now this screen is not only limited to the TV or computer screens. Now, the exposure to these digital screens is also in the form of smartphones, laptops, tablets as well as other portable digital devices. With the evolution of mobile phones, there has been a shift to smartphones because it includes all of the internet features as well as other useful applications. During the Covid-19 lockdown, the screen time for 94.7% of students across the world had increased (Akulwar-Tajane; et al, 2020). The main reason behind this was the shift of the school curriculum from the physical classroom to an online one. There was also a massive disruption in the routine in the lives of these children because of which the use of nocturnal media also drastically increased. Since these students had to stay at home in a manner that they had never before, their use of the internet and digital devices for studying, entertainment, as well as social networking, increased substantially. In such a scenario, sociologists have stated that this digital technology has managed to greatly distract these children and has also led to very severe social as well as emotional consequences.

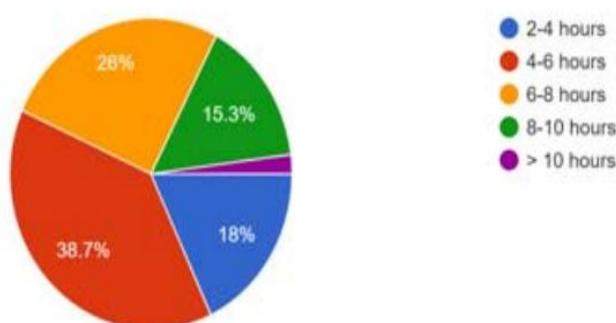


Figure 1: Time spent by children on different digital devices during lockdown

1.2.2 Impact of excessive screen time on mental health and well-being

The majority of the children observed during several types of research over the past year have been shown to develop media addiction during the lockdown phase. This addiction was a means to produce a sense of pleasure and at the same time create an escape from the internal discomfort that these children are known to face in different situations. Also, a person may seem addicted to a thing or an activity when their behavior does not come under control despite recurrent efforts and at the same time, their behavior remains the same despite very grave consequences from the same (Garmy; et al, 2018). Initially, the research that took place in terms of excessive screen media usage used to take into account the time spent by individuals on digital media. However, the recent conceptualization of the excessive use of these devices is based on the dependence that people have on these devices. Due to this digital media and screen addiction, children usually develop low levels of tolerance, increased withdrawals, feeling of being preoccupied at all times, loss of interest in activities, lack of control, increased chances of conflict, and using their phones and other devices as means of escape from reality. All of these behaviors are seen to impact the relationship of these children with others. Even though using smartphones and other smart devices as a means of exploring things as a leisure activity is considered normal, its increased reliance by the kids can be termed as addiction. In the studies which have been done on actual students, it has been observed that they feel a sense of anxiety and restlessness when they are separated from their phones or tablets. They also develop anxious behaviors or cravings for the same. The findings from these studies show that overuse of smartphones and excessive screen time can all lead to a lack of cognitive control as well as an emotion-related dysfunctional coping process. Along with this, the impact of excessive screen exposure on the kids has been alarming, especially during the Covid-19 lockdown. They have been suffering

from emotional issues, poor performance, and cognitive functions. They have also become slow, forgetful and tend to make mistakes more frequently.

Another very important factor with excessive screen use of the internet is the fact that it releases dopamine in the brain, this release of dopamine can harm impulse control. Several studies conducted have shown the frontal context has the same impact as consuming cocaine (Gao; et al, 2021). At the same time, cognitive neuroscientists believe that when rewarding social stimuli are created, it can also create dopaminergic reward pathways which eventually help in providing these students with a positive experience. The screen content on social media is what seems to stir people's emotions and at the same time leads to cognitive over-activation.

When the Covid-19 pandemic was at its peak, students used to make use of social media to enhance their knowledge and awareness about the novel disease. Also, there may be some children who are prone to health anxiety, these children were also seen to have self-elected certain online resources (Saunders; et al, 2017). Through these resources, their anxiety and stress about what is going to happen in the future increase two-folds again. It was also observed that using the internet to get the appropriate health information was a major cause of depression among the student population. Therefore, identifying any pre-depositing individual traits as well as characteristics can help in stating how excessive use of screens by students can lead to a great level of emotional vulnerability among the students.

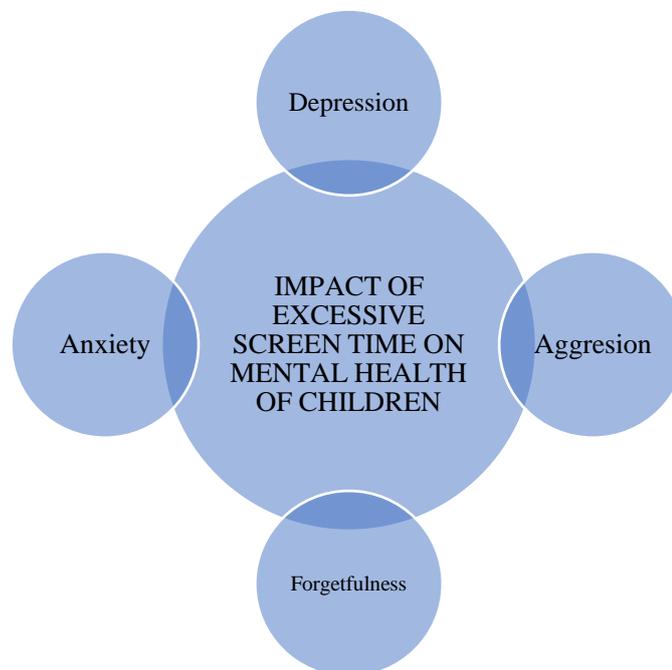


Figure 2: Impacts of excessive screen time on children's mental health.

1.2.3 Physical Health and Well-Being

Just as the excessive use of screens impacts the mental health and well-being of an individual, in the same way, it has a very direct and grave impact on the physical health of people. This impact increases manifolds when it comes to children. This happens because, at an age when they should be playing and indulging in outdoor physical activities, they are sitting at home in front of radiation-emitting screens. When children indulge in excessively high screen time, they usually experience a disruption in their sleeping patterns. They develop irregular sleep patterns and at the same time go through restless sleep patterns and too early morning awakenings (Wang; et al, 2018). When it comes to another physical discomfort that these children have to go through, then issues like chronic headaches, eye strain, weight gain and tiredness top the list. Moreover, when

these children are not able to get enough sleep, they tend to get more engaged with screens which further aggravates the issue of technology displaced sleep.

Issues like eye strain are one of the most common symptoms that are associated with technology. However, the issue is not simply an eye strain, it further causes issues like dry eyes, headache, itching, and burning in the eyes (Neophytou; et al, 2021). All of these symptoms make it difficult for the children to concentrate on both their studies as well as the day-to-day activities that they undertake.

During the Covid-19 lockdown, both the studies as well as other extra-curricular activities that these children were engaged in moved online. They were not allowed to step out of the house and instead had to spend most of their time sitting in front of the screen. This led to an increase in the number of obesity cases among children (Domingues-Montanari, 2017). It was because when the use of electronic media increases, it leads to a deficiency in their physical activities which eventually leads to a higher body mass index. Another reason that causes obesity among children is the fact that covid or no covid, over the years, they have developed a habit of eating food sitting in front of the TV. Eating while watching TV leads to a much greater calorie intake which in turn contributes to obesity. All of these factors taken together are impacting the physical health of the students as much as it is affecting their mental health.

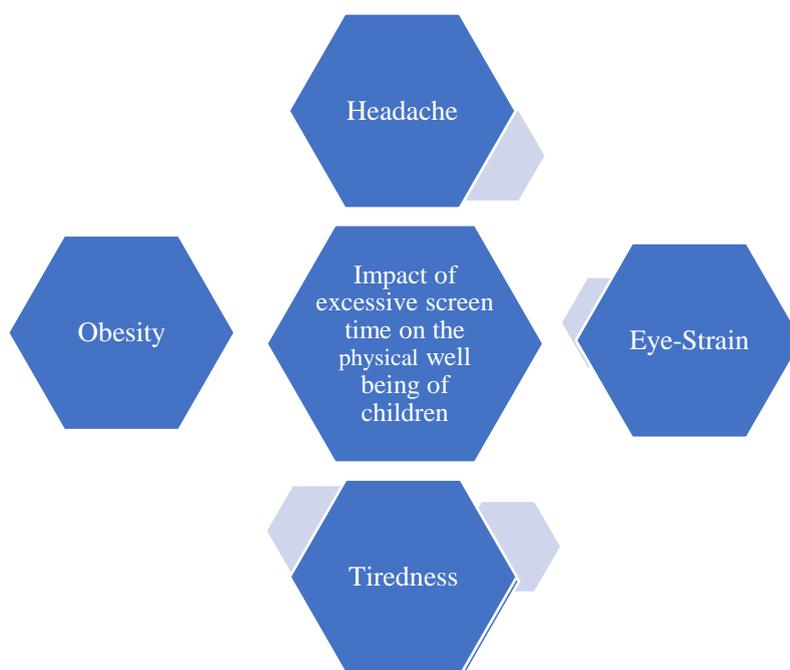


Figure 3: Impact of excessive screen time on the physical well-being of children.

1.2.4 Lack of Physical Exercise

One of the biggest concerns that are around using screens excessively is the sedentary behavior that children specifically develop through the same. This is because the time that these children spend in front of the screen is not spent exercising or getting involved in any physical activity. Hence, the overuse of screens is linked with very poor physical health, well-being as well as mental health (Wu; et al, 2015). It is said that physical exercises help in preventing a lot of mental health issues and at the same time helps in improving the mood of an individual. It can also improve the child's self-esteem and eventually alleviate any symptoms of social withdrawal. However, when children get involved too much with the screens, then it automatically leads to a lack in the physical exercise that they do. Hence, instead of a better mood and mental and physical health, these children go through depression and low self-esteem issues in their lives at such a young age.

1.3 FUTURE TAKEAWAYS

Online learning has become one of the most popular trends of the 21st century. Also, since the pandemic hit the world, schools and universities did not have any choice but to take their operations online. In such a situation, where children were already exposed to a lot of digital devices and screens, the one thing that they could do physically, they had to do that over a screen as well. Hence, it is important to understand that even though their screen time has gone up through the roof, the concept of online education is not going anywhere because of the plethora of advantages it brings along with itself (Trinh; et al, 2015). Even though these students would not have to study as much on the screen as they now, a huge part of their lives would still be spent in the front of the screen in the form of leisure, gaming, socializing, etc. In such a situation, therefore, parents and caregivers would have to come up with ways through which they would be able to regulate this screen time in a manner that would not impact their mental or physical well-being. The time that these children spend over the screen would have to be regulated so that they can give as much attention and focus to their physical as well as mental development. In the present scenario, children are not allowed to go outside as much as they want to because of the pandemic scare (Benaich; et al, 2021). However, it is assumed that this situation would become better in the future because of which splitting time between the screen and non-screen-related activities would be easier to do. Hence, it is believed that with life coming back to normal slowly and gradually, the time that children spend on the screen would also reduce which would eventually make the situation much better than what it is now.

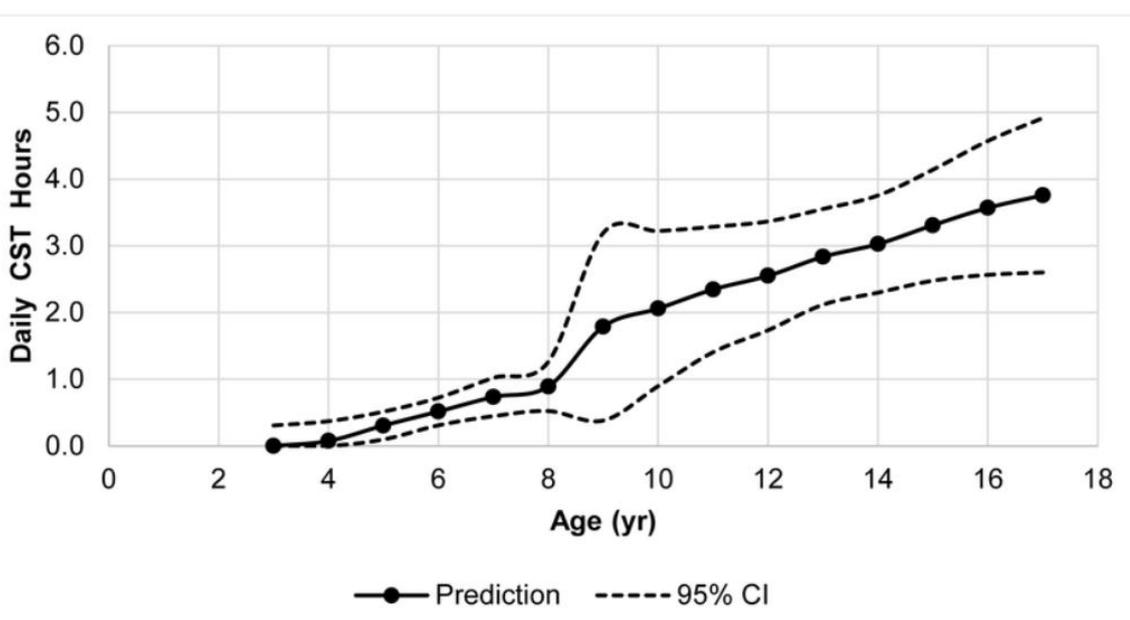


Figure 4: Predicted usage of digital devices on a daily basis by children of different age groups.

1.4 RECOMMENDATIONS

Due to an enhanced exposure of kids towards digital devices, it is observed that the time that children spend on these devices has substantially increased. Today, children are not just used to these digital screens and devices, rather, they are addicted to them. They get anxious when they have to get separated from either their phones, tablets, or laptops. This situation had aggravated all the more when these children had to stay and study at home during the Covid-19 lockdown. Regardless of how bright the future looks in terms of reduced screen time; parents must make use of certain steps with which they can curb this problem at the present moment as well. Hence, some of the recommendations that parents can use to regulate their children’s screen time are as under:

1. Manage Screen use

This can be achieved by creating a family media plan or by exerting parental control over the different devices that children generally use. By creating a family media plan, the parent can decide the amount of screen time their children can have access to through the day. On the other hand, by controlling the digital devices, parents can automatically decide the amount of time and the type of content that their children would be engaging with.

2. Convey the right message

Most of the times children spend a lot of their time over the internet because they feel that it is a place where they can be themselves and that all their secrets are safe in that space. However, what they do not understand is the fact that how dangerous this internet can be. Hence, as parents, it would be important that parents send the right message to their children about internet safety and privacy so that they can understand the consequences and then eventually spend less time on the same.

3. Limit cell phone use

In the current studying from home scenario, children have to have constant access to their phones due to the end number of resources being shared on the same. However, as the schools reopen, parents should ban the use of cell phones while eating, studying, and sleeping. They should keep the phones away at this point so that the children can focus completely on these activities alone.

1.5 CONCLUSION

In the past decade, the dependence that people have on technology and the different technological devices has increased greatly. The internet has been both a boon and a bane in this sense as it has made the world come closer but at the same time has given rise to a great number of distractions. The wrath of the internet and the end number of devices that have come up due to the same have not even spared the children. Over the years, the addiction that children have developed with these digital devices has spiked significantly. This screen addiction is not only damaging their brain but is also impacting their physical and cognitive well-being. With the Covid-19 pandemic, the education of these children was shifted to an online mode because of which the time that the children spent on the screens increased much more than before. Hence, it became all the more important for parents to come up with ways through which they would be able to manage this time that their children spent on the screen and at the same time reduce the damage that it would cause to their health and well-being. It is estimated that this situation of online learning is something that would improve in the future but it may not entirely go away. Hence, parents and caregivers must take necessary steps and actions so that they can take care of their children and safeguard them from screen overuse from a very young age.

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UNLOCKING THE POTENTIAL OF INDUSTRY 4.0 IN FINANCIAL SERVICES

**Neha Sharma **Vikas Bharara*

**Assistant Professor, Institute of Information Technology & Management, GGSIP University, New Delhi*

***Associate Professor, Institute of Information Technology & Management, GGSIP University, New Delhi*

ABSTRACT

Digitization, automation and virtualization in the span of Industry 4.0 define and regulate the identity of finance and its interface between customer and industry participants. Numerous financial services recently have been devolving to the virtual level promoting the advancement of alternative finance through virtual platforms. Moreover, with the inclusion of fintech innovations, automated banking processes and Block chain technologies are compelling the restructuring of the financial sector. Furthermore, in the midst of ongoing competitive environment and refraining from disappearance owing to global competition and growing workplace complexity, necessitates the reconciliation of advanced technologies of Industry 4.0 and financial services. Consequently, advanced, more competent and well-organised industrial transformation can only be achieved with intelligent and digitized interactions. In this vision, this chapter tries to address the potential of Industry 4.0 on financial services and challenges to this reference.

INTRODUCTION

Traditional practices of the financial services are unable to meet the challenges of Industry 4.0 era. The emphasis on obtaining data instantaneously in real-time unfolds the new sphere of insights and managerial decision making. Digitization and automation has been changing the way businesses are performing their operations and financial sector has no exception to it. To realize the benefits of digitization for financial services, financial sector would have to recognize not only the potential of industry 4.0 but also the challenges to this reference.

Future generation technologies like Block chain, Artificial Intelligence (AI), Fintech Innovations and Internet of Things (IoT) is actuating the existing industrial revolution – furthermore termed as Industry 4.0. The aforementioned technologies are competent enough to transform the finance sector with revolutionary shift. The financial services sector has significantly leveraged the potential of industry 4.0 comprehensively. Insurance, forex, banking, stocks, mortgage and several other financial sectors are booming on account of positive plunge of digital innovative techniques and automated financial processes across the countries of the world.

As per the Nielsen Research, services through mobile devices have turned out to be a new benchmark for banking activities. The developing countries of Asia Pacific and Africa are turning out to be the key driver of mobile banking across the world. Furthermore in US, majority (70%) of the stock trading decisions are taken with the help of computer algorithms, whereas just less than 10% of stock trading decisions are taken based on individual expertise. Moreover, the recent crypto banking and decentralised banking system gleaned from block chain technology is meant to radically transform the financial sector rapidly.

Financial services sector are significantly influenced by the recent industry 4.0 conception powered by digitization, software engineering, automation and information technology. Industry 4.0 has by now left extremely desirable effect on the economy globally by contributing various new industrial sectors and huge market value. The financial services sectors are the substantial reaper from industry 4.0 by significantly embracing its growth and market size.

INDUSTRY 4.0 TECHNOLOGY: A BOON TO GROWTH & PRODUCTIVITY

The conventional industrial practices worldwide are experiencing an expeditious change owing to digital transformation relentlessly taking place due to evolving technology. It is extensively acknowledged that the world is significantly undergoing the fourth industrial revolution termed as Industry 4.0. The first industrial revolution includes invention and usage of steam engine in the manufacturing sector, followed by the invention of electricity powered by mass production labelled as second industrial revolution. Furthermore, mutual application of electronics and information technology for automation in manufacturing sector is entitled as third industrial revolution. And the fourth industrial revolution considered as industry 4.0, emphasises on digitization of the physical world and extensive integration of value chain participants. Many studies describe Industry 4.0 on the point of automation and exchange of data in the manufacturing sector, with the extensive use of Big Data Analytics, Internet of Things (IoT), cognitive computing, Cyber Physical Systems (CPS) and cloud computing, with the major aim of achieving advanced level of success. Other studies recommended that industry 4.0 encompasses the complex system of smart integration of digital devices with the machines, tools and people in order to elevate the growth and productivity of a sector. Moreover, Industry 4.0 offers flexibility to the manufacturing processes, therefore helps to create customised products for the target market segment and at the same time satisfying tailored needs through an affordable low marginal cost (Berger, 2017).

Industry 4.0 technologies are believed to ensure substantial increase in organisational efficiency and competence. Such automation and digitization are designed to maximise productive abilities, exchange of data and effective communication between all the real and virtual entity for the purpose of optimising productivity. However, any entity or sector left behind, unable to catch up with the ongoing trend indicates compromising its competence, possibly its survival in the market, because the business environment is progressively competitive. Adapting to change is prerequisite for survival. Such innovative and performance elevating tools of Industry 4.0 provide companies opportunities to improve and innovate its practices and processes. Forthcoming advanced technologies even helps in better understanding of customer needs and hence ensures customer satisfaction. The undeniable fact is that the customers cannot reject the innovative and personalised offers presented to them. Adapting to the progressive competition in the new world necessitates the major shift to the use of information technology in to various company practices and processes. Furthermore, an alternative to invest in integrated infrastructures, investment in digital tools resulting in cost saving and increased productivity have gained substantial value in Industry 4.0. Information technology offers a significant merger between real and virtual realities. In today's world, office building to machinery, from administrative activities to data protection and social networks, every bit of operational activities and services are powered by AI technologies. Moreover Industry 4.0 works on the basis of IoT. Currently several studies have measured the advanced operational activities, performances and success of digitized systems, ensuring the discovery of new and better insights and adoption of the same will surely enhance the efficiency of the processes. Machines and digitized systems merge together to communicate and regulate themselves, hence optimising their processes and also taking effective decisions and implementing it on behalf of human beings empowered by artificial intelligence and offering newer solutions to new challenges. Intelligently, Industry 4.0 gets to decrease human intervention in the business processes and progressively consign to new generation business processes and services where machines interact with each other rapidly and efficiently. After all, this transition to fourth industrial revolution will be retained and benefitted by those who adapt to this and directs their investment towards automation and digitization. This transformation seeks to optimize efficiency and organisational performance in order to enhance profitability, better service to the customer and overall reduction in the marginal cost. Hence, retaining an infrastructure with no digital integration will eventually slow down the growth of the company whatever sector it belongs to. Today, the challenge for the company is not confined to the product/service diversification or its operations, however, the entire way in which the company conduct its business, the complete ecosystem based on the company's policies, strategies and guiding principle.

FINANCIAL TECHNOLOGIES (FINTECH)

Financial institutions are one of the keystone and foundation of any economy but to keep up with the emerging challenges and digitization, they need to transform and modernize. Moreover, to remain competent and able to meet the continually changing customer needs, shift in regulatory requirements and rising cyber security risks

on a minimised cost cover requires a tremendous shift. A quick business transformation powered by intense digitization that adapts to new technologies together with artificial intelligence, block chain technology, cloud computing are at the heart of that transformation.

Technological and digital advances in financial sector have given an opportunity to reinvent finance and even reorganise and shake up the existing players in the market by creating innovative products and services with new opportunities. Such transformation will enable Fintechs to focus and penetrate into such customer segments neglected and not captured by giant players in the market. The popular mobile phone applications, augmented use of internet with revolution in software and engineering, continue to influence the financial sector majorly along with other sectors too. Mobile applications and online payment systems stay at the core of the Fintechs in financial sector. Moreover, many other technologies have too taken over for services in the subsequent areas: Personal Finance, Corporate Financial Investments, Banking APIs, Retail Investments, Asset management, Financial Platforms, Crypto currency Technology, Data Analytics, Robotics, InsurTech and Next Generation Banking. FinTech companies with its extensive coverage in the market offer many services in several areas like credit solutions, insurance services, payment systems and asset management.

With the advent of technology, there is a huge transformation of customers. Customer desires and expectations are changing with the change of technology and adoption of digitized practices. The notion of digital customer is emerging in all the sectors and the offers must be consistent to this. With the advent of virtual offices, emerging digital platforms that make it possible for businesses to communicate with each other through common platform are acquiring incessant importance. For instance, a FinTech appliance with admittance to social media accounts of the customers can generate credit scores on the basis of account activity. InsurTechs, one of the technological revolutions under FinTech has emerged to offer solutions to the insurance sector with IoT and other digitized alternatives for determining the valuation of car insurance premiums on the basis of analysis of data derived from a car's data interface.

There are various categories of FinTech emerged in the market:

- *Fintech BtoC (business to consumer)* emphasizes on the general public at large, aims at offering products and services to the customers by the major banks. This includes services like account statements, credit and debit cards, digital payments, automated investments and retirement options, digital neobanks, personal finance management applications and wealth management tools.
- *Fintech BtoB (business to business)* emphasizes on providing financial services via digital platforms to companies big or small and SMEs. This aims at offering online payment alternatives to businesses that allows the transferring, receiving and processing of funds digitally.
- *Fintech BtoBtoC (business to business to customer)* primarily focuses on interactive financing platforms which draw together investors, customers, businesses and professionals with the focus on digital financing techniques like crowd funding, crowd equity and crowd lending.
- *Insurtech in Insurance* aims at offering 100% digitized insurance services from the payment of premiums to the demand of claim. It refers to commitment to new practices and development of innovative products and services, application of digital technologies to optimize the business in the insurance sector.
- *RegTechs (Regulatory Technologies)* aims at companies to easily acclimatize to the demands of rising regulatory reporting, being cost-effective and protected at the same time. These technologies simplify the procedure of regulatory requirements and allow companies to digitize the method of monitoring data. This has opened a new pathway on the compliance, risk management and security, specifically public sector regulations, supported by information systems.

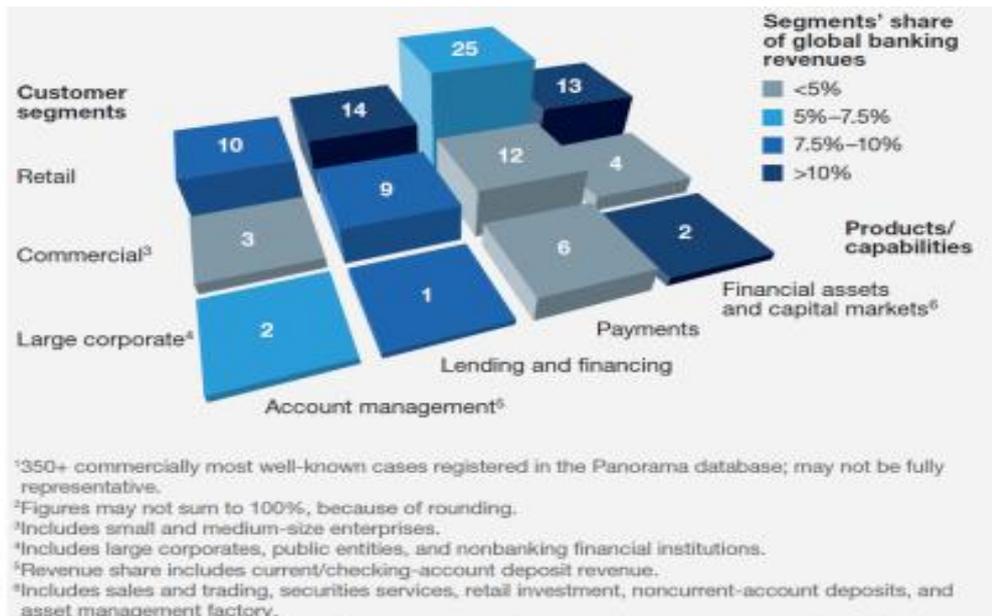
DIGITAL TRANSFORMATION IN THE BANKING SECTOR

Digitization in Industry 4.0 is altogether modifying the rules of the business game in many sectors through possible intervene in the existing business models leading to the emergence of more complicated and dynamic ecosystem supporting growth and modernization (Iansiti and Levien, 2004). The financial as well as the banking sector specifically is a dynamic sector with extreme competition and scope for innovative products and services.

Consequently banks are determined to innovate and transform quickly in order to escape from being outperformed by the intense competition. Previously, competition was restricted to ATM, telephone banking, mobile banking and internet banking. Presently, every bank is competing to invest in digitalized banking structures that enable services to be offered through digital platforms. Furthermore, the advent of financial transactions emerges with the introduction of internet in the late 1990s. Undeniably the innovation of Smartphone indicates the actual accelerator of admittance to the internet on continuous basis.

Emerging competitors, commonly termed as FinTech companies have started penetrating the banking segment by selling digital payment alternatives, especially many of them are emphasizing on the rising mobile payments market, digitized services in general insurance, personal lending, financial advisory services which were previously been considered as an intricate service.

Figure 1 - Customer segments and products of leading financial-technology companies 2015 (% of total)



Source: Dietz M., Khanna S., Olanrewaju T., and Rajgopal K., 2016, cutting through the noise around financial technology, McKinsey, February,

<http://www.mckinsey.com/industries/financial-services/our-insights/cutting-through-the-noise-aroundfinancial%20technology>

As indicated in Figure 1, FinTech have emphasized on the three crucial retail banking areas, where there is a scope to work at sinking the gap between customer delight and expectations. In lieu of this, they are in full swing to leverage the association with the customers by initializing advanced business models based on five unique characteristics;

- Ease of operation
- Transparency
- Simplifying customer acquisition
- Simplifying distribution and enhancing commercial attractiveness
- Specialization

API is an acronym for Application Programming Interface commonly used in information technology is a software intermediary that makes interaction between two applications possible. API is a set of programming

code that allows data transmission from one software to another with ease. Basically APIs are software applications that help in developing apps which interact with the pre-existing technology of other companies. However, effective use of APIs in banks will certainly offer seamless banking experience to the customers. API banking involves a set of protocols that allows banking services to be easily accessible to other companies through API. This enables both banks and other companies to augment their corresponding expertise and services to the customers more than what they can provide by themselves.

Nowadays, one could see many renowned and prominent start-ups providing easy payment services. Undeniably the association between technology and banks has altogether attained newer heights with the ongoing FinTech trend, consequently technology based FinTech companies are now growing as rivals to the banks. Simple and convenient primary banking functions like PayPal, Lending Club, Square, Credit Karma, Stripe, etc. offered to customers by FinTechs are becoming an alternative to banks. Recent monetary system powered by Bitcoin and crypto currencies has the potential to restructure the entire banking world.

The growing significance of the direct influence of modern technological initiatives in the financial sector has augmented financial innovative initiatives and has well established its influence on R&D spending too. As reported by Organisation for Economic Co-operation and Development (OECD) data, sum total of global expenses on financial inventive practices has continued to rise progressively since 2004. Banks are also taking initiatives to adopt and develop inventive ideas by setting up R&D centres arranging various hackathons. This digital revolution is compelling to induce innovative products and services for remittances and payment systems. For instance, a patent application has been filed by Amazon for “Payby-selfie” and MasterCard provides selfie payment to its subscribers. On the contrary, with the advent of mass payment chain technology, “Push” payment transactions has the potential to easily substitute unmediated dealings between accounts and this will be the reality in the near future of the banking sector. Furthermore, the initiative of Amazon Go market in the US with amazing shopping experiences across the world will quickly add on to one of the major FinTech achievements and online direct payment networks will be developed across the world. Innovations in the transformed digital world will linger on to have the destructive influence on the conventional technologies.

Electronic cheques are one of the emerging tech applications, developed to reduce the false cheques and allow the permeability of low-risk cheques. In this system, bankrupt companies will be unable to utilise their existing cheque holidays and such cheques will be cancelled and nullified. Moreover, a company will be allowed to issue cheques only in proportion to its monetary turnover and hence clearing account of the company will be controlled.

Contribution and significance of artificial intelligence in the banking and financial sector since last one decade cannot be ignored. Undeniably “ChatBot” an artificial interaction entity, latest initiative of artificial financial assistant is one of the major competitors to many such products in the sector. Its usage is likely to be extensive because of the acquaintance of the new generation with the preference of texting through mobile communication. ChatBot application initiatives like Amexbot from American Express and Erica from Bank of America are recognised as the sector’s leading applications and are likely to substitute the call centres soon.

Emergence of virtual branches and reduction in the number of physical branches with workforce inclination to digitization is evolving as one of the inevitable effect of financial sector. Moreover, these digital transformations have eventually reduced the number of bank employees and emphasize leaning on small work groups consequently leading to the decline in the number of branches year after year. Branchless banking is the new trend and emerging outcome of digital banking transformation.

Blockchain Technology and Cryptocurrency

Blockchain technology has evolved to ensure the financial security and transparency in the financial transactions. Undeniably, it is equally a crucial element of digital transformation process, with the notion of preserving encrypted data on an online distributed network, hence easing out companies fear on data privacy, integrity and ease of access. Hence, it contributes to the technological invention that has the potential to preserve and convey information transparently, steadily and with no epicentre to control. It is likely to be similar to huge database that encloses record of all the transactions made between its customers and the entity. The Blockchain technology initiated in 2008 for the first time was applied to document exchanges that took place using bitcoins

and has been identified as one of the biggest network revolution subsequent to internet i.e. its principal technology. It is recognised that Blockchain is at the core of Industry 4.0 and undeniably one of the most decisive innovative technologies across the world in this digital transformation. Blockchain technology can be used in following three ways;

- Transfer of assets (shares, money, securities ...)
- Improved traceability of products and assets
- Automatic and digital implementation of contracts (termed as “smart contracts”)

Similarly, Blockchain is capable of performing specific tasks those banks, governments, notaries and even e-commerce companies cannot perform better, cheaper, faster and more securely. It is impossible for banks to ignore the advanced benefits of this new system. For instance, major Dutch banks like ABN Amro, Rabobank and ING have already initiated R&D activities on the emerging Blockchain technology for the betterment of their system of payment. Moreover, many of the world’s leading financial institutions and banks like Bank of America, Citigroup and Deutsche Bank have greatly invested in this technology and have huge setups for laboratory research.

Furthermore, cryptocurrencies, increasingly popular with Bitcoin, is transacted through Blockchain technology system over data-sharing network among people. Any intermediary institution is not required in this system, thus, paved way for swift and cheaper money transfer. Consequently, it has become one of the preferable tools of investment among people and entity across world and even research on crypto competition has started thriving among academia and financial sector too. However, it appears to be losing its significance these days, whereas Bitcoin is much on the conversation in the financial world. Bitcoin as a phenomenon born via Blockchain since a decade was unable to retain its identity as a sustainable global crypto-currency for daily life transactions among people worldwide. Blockchain’s close association to Bitcoin, has been relatively negative on the technological revolution and industry 4.0 to come up to its exact potential, however, this is the time now for Blockchain to function and prove its worth beyond Bitcoin. Blockchain disseminated ledger technology (DLT) which can be applied in many facets that are conventionally under the control of the government. Moreover, there are many tools and applications that we are using could be decentralized through Blockchain to build a paperless digitalized world; also this will perhaps helps in decreasing global warming too. Digital marketing, internet, traffic control, social security benefits, asset management, everything can be decentralized via Blockchain technology to offer efficient, better and unlimited access to public and personal records. Blockchain has immense opportunities and potential to unfold incredible forms in the future, however this is only possible if law makers, official regulators, central banks and other government branches allow it to proceed.

CONCLUSION

On the way through digital transformation, many incredible innovations took place in industry 4.0, comprising of knowing the behaviour of the customer and performing accordingly, providing customers with alternative digital solutions, enhancing customer satisfaction, offering digital services, increased use of sensor technology in business processes, unlocking the use of robots in the production processes, facilitating home manufacturing via 3D printers, initializing the use of artificial intelligence and evaluating and processing large database.

With the increasing access to internet and the rapid use of mobile applications, expectations of customers specifically in the financial sector have elevated beyond the basics. Consumers now expect and demand easy accessibility of financial services with quick and user friendly approach. Such advancement of technological trend in industry 4.0 and increasing customer expectations are compelling financial sector to adapt digital transformation rapidly in order to meet the emerging innovative needs of the customers and thereafter retain their loyalty. The innovative business models emerging in the financial sector based on financial technology are compelling banks and other industry players to invest and grow in this area. Mobile banking, internet and online banking is now more crucial than the physical branches. Banks and other players in the industry are restructuring themselves owing to digital financial solutions that smartly fulfil the credit needs of SMEs with alternative financial solutions. Many new positions and units for handling digital data have created to by banks

and financial institutions to remain competitive. Eventually some of the professions in the financial sector will soon be obsolete, alternative ones will emerge, presently not known to us.

However, in order to remain stable and competitive in the ever –rising era of digitalization and merging market conditions, financial institutions and banks have to adopt to this transformation that involves investment into digital services instead of conventional services. Sustaining competition in the near future will be contingent to the decisions that banks take today. The future of the financial sector though unpredictable, expected to be shaped significantly paired with digital technology and non-conventional progressive competitors.

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INTERNATIONAL NEWS AGENCIES, GLOBALIZATION AND THE DEBATE ON NEO-COLONIZATION

Desmond Onyemechi Okocha **Agaku Terhile *Ampu Harikrishnan*

**Department of Mass Communication, Bingham University, Karu, Nasarawa State, Nigeria*

***Department of Mass Communication, Bingham University, Karu, Nasarawa State, Nigeria*

****Bir Tikendrajit University, Imphal Manipur, India*

ABSTRACT

This chapter assessed international news agencies, globalization and the debate on neo-colonialism. Premised on the tenets of dependency theory while the secondary sources of data relevant to the discourse were relied upon for analysis, it was revealed that international news agencies because of their advantages of extensive global network, fast circulation, easier circulation, versatility, not bound by location, highly economical as well as wider reach are used by developed nations of the world to expand communication links between different regions whereas colonialism was the expansion of both power and territory. This further widens the gap in information as flow developing countries are negatively reported as countries plagued by insecurity challenges, war, epidemics, corruption, hunger, political instability among others. The chapter thus recommends that developing countries should improve on the existing media stations available with a view to minimize the over dependency on international news agencies for information about events within and outside their immediate environment. Besides, the existing media in developing countries should churn out content that will be useful to their ever-increasing audience members to minimize the over dependency on foreign media and leaders in developing countries should focus on making life meaningful for their citizens to minimize the over dependency on developed countries.

Key Words: Capitalism, Debate, Globalization, News Agencies and Neo-colonialism

INTRODUCTION

Globalization has come to stay in the 21st Century. Usman, Isa, Fati & Sale (2016) rightly observed that globalization has become an inescapable process as it confers certain benefits and imposes certain costs on everyone that embrace it. Today, many nations of the world are affected by globalization through several channels such as international migration, diffusion of technology and international news agencies. etc. For example, international news agencies as agents of globalization have continued to cover and sell news to the developing or third countries of the world in a negative manner.

There is an imbalance in the flow of information by these news agencies as most of their news about third world countries negatively portrayed the third world news as countries affected by war, diseases or epidemics, corruption, hunger, political instability among others through various mediums like the newspapers, radio, and television broadcasters (terrestrial, cable, satellite). Based on the import of news in the society, news agencies ensure events in distant parts of the world are reported. News agencies usually source, process and package news stories and sell them to news media organizations such as the print and broadcast media. These agencies have new information intermediaries – aggregators, social networks and search engines, which greatly influenced the style of their work. For some time, social networking has resulted in a range of visitors of news agencies' sites and this can be seen as a positive trend of the development of media.

News agencies have particular distinction of being the first models of western media's expansion across national borders in the history of mass media these recent trends in globalization have posed new challenges that are reshaping their role and operations. The world today has become interconnected, as countries in the world now

get to know about each other cultures, values and believes etc. This is to say that the concept of globalization is a process that has to major aspects: the broadcasting and deepening of interactions and interdependence among societies and states, throughout the globe. Cohn further argued that, regarding broadcasting, globalization extends linkages geographically to encompass virtually all major cities and states. Thus, events and policies adopted in one part of the world are likely to have major impact on other countries in regards to deepening; globalization involves a marked increase in the frequencies and intensity of interaction and interdependence among societies and state.

Okpaga (2003) explained that globalization has encouraged the establishment of powerful mass media and their agents whose main aim is to promote foreign values, norms, ideologies and way of life to the rest of the world. For example, today, Voice of America (VOA), British Broadcasting Corporation (BBC), Cable News Network (CNN), and satellites and cable networks are playing the role of spreading western cultural values to the rest of the world. This development has forced developing countries to relax the development of their own communication systems. Developed countries of the world usually achieve this because of their technological advantage over developing nations or third world countries. Developed countries usually produced the majority of the media content because they have the resources to do so. Developing countries of the world then subscribe to those productions since it is cheaper for them to do so other than produce their own media content. Therefore, third world countries end up consuming media content filled with the western world's culture, values, belief as a result of globalization.

Nyitse (2021) posited that globalization has widen the access to a range of foreign supplies for the consumption of a large number of consumers, owing to the market planning and policies adopted by different multi-national corporations, this is done to the detriment of under developed countries like Nigeria who lack the competitive edge because they are technologically backward. Nigeria like several other countries in her bracket are basically consumer nations who are surviving at the mercy of advanced nations like USA, United Kingdom, France, Germany, etc and their multi-national monopolies.

Today, international news agencies are globalized to ensure third world countries depends on developed nations for information about events around the world. This is in line with the idea of colonialism as championed by developed countries to control developing nations. It is a practice or policy of control by one nation or power over other people or areas, often by establishing colonies with the aim of economic dominance. However, this policy or practice failed in most developing countries as a result of preference of culture, language, religion etc. it is not clear whether international news agencies and globalization are used to enhance post-colonial control or neocolonialism which has to do with the continuous dependence of former colonies on foreign countries, but its meaning soon broadened to apply, more generally, to places where the power of developed countries was used to produce a colonial-like exploitation for instance, African and Latin America, where direct foreign rule had ended in the early 19th century. Drawing from the above, this chapter critically assessed international news agencies, globalization and the debate on neo-colonization.

REVIEW OF CONCEPTS

INTERNATIONAL NEWS AGENCIES

Usman, Isa, Fati & Sale (2016), in a study “News Agencies as Agents of Globalization” explained that a news agency is also called press agency, press association wire service refers to organizations that gathers, writes and distributes news from around the nation or the world to newspapers, periodicals, radio and television broadcasters, government agencies, and other users. These organizations do not publish news itself but supply news to subscribers, who by sharing cost; obtain services they could not otherwise afford. All the mass media depends upon the agencies for bulk of news, even including those few that have extensive news gathering resources of their own.

Foreign Correspondence and News Agency Journalism defined a news agency as an organization of journalists established to supply news reports to news organizations such as newspapers, magazines, radio and television broadcasters. Such an agency may also be referred to as a wire service, newswire, or news service. A news agency is an organization of journalists established to supply news reports to organizations in the news trade: newspapers, magazines, and radio and television broadcasters. They are also known as wire services or news

services. A news agency can also mean an organization of journalists established to supply news reports to news organizations: newspapers, magazines, and radio and television broadcasters. Such an agency may also be referred to as a wire service, newswire or news service.

Furthermore, a news agency is an organization aimed at distributing news for customers; generally, media outlets, and not to the public. It is up to their clients - newspapers, broadcasters, magazines, websites to edit and publish these news in their final form to the general public. Generally, news agency gathers news (mainly from other media in the countries where they have offices), sends them to their central newsroom, and only then redirects them to their subscribers. Worthy to note is the fact that many news agencies also provide news to corporate and individual subscribers such as banks, insurance companies, consulting firms and alike.

News agencies like Reuters have been in existence since the nineteenth century. Reuters was established in Great Britain in 1851 has become one of the leading newswire services in the world with a headquarters in Toronto. The agency was established by Paul Julius Reuter, a former bank clerk who in 1847 became a partner in Reuter and Stargardt, a Berlin book-publishing firm. The media knows them as news agencies, wire services or news wires. Reuters does not own physical properties such as newspapers or television channels. But they generate news for all forms of media. Their subscribers include newspapers, magazines, radio stations, television networks and now news sites. In fact, their subscribers exist beyond the news industry. The government buys news services; so do several academic institutions. The reason for this: news agencies are the best, fastest and most accurate source of news.

It worthy to note that new agencies characterize by speed, neutral and fact based, sourcing, non- stop flow of information, centralizing structure, mediation, textuality, dependency on external sources among others. Foreign Correspondence and News Agency Journalism argues that these characteristics are common to all news agencies or wire services as explained below:

1. **Speed:** News agencies are characterized by speed in order to meet up with deadline pressure as each minute is a deadline for them. While some newspaper somewhere in the world is being put to bed; some TV channel is getting ready to air its next bulletin. The news agencies can't wait. They must transmit their report at the earliest.
2. **News agencies are neutral and fact-based:** The news agencies don't take sides. Their reports are factual, and free of bias. Even the news analysis has to be based on concrete evidence. There is no kite flying, insinuations or ambiguities in their reports.
3. **Sourcing:** The use of sources gives credence to a news story. To this end, the news agency reporter is taught from day one that every report must be sourced. The news must be attributed to an individual, an official or an organization.
4. **Nonstop flow of information** ("real time")
5. **News agencies have a centralizing structure** (no local offices have any autonomy, but depend on the headquarters newsroom)
6. **Mediation:** By mediation, news agencies serve as intermediaries between the media organization and masses and sell news to media, not directly to audiences)
7. **News agencies have client-orientation** (they model their services after what their subscribers expect, even when it means bias or bypassing journalistic values)
8. **News agencies often translate their news - stories** (or translation, because news agencies translate news from other languages into their own clients' language all the time). The idea is to ensure that their client in such countries understands the content of the news story.
9. **News agencies are global in nature-** Most news agencies run only what they feel to have an interest to global audiences, not news concerning just local issues; they avoid sticking to neighborhood topics)

10. **News agencies depends on external sources** (most correspondents for news agencies cannot manage to gather all news in the area they cover, so they regularly resort to news already carried by their local media, sometimes to the point of copying and pasting the original text)
11. **Contents complementarity** (news agencies provide not only 'news' per se, but also feature stories, interviews, background articles, opinion pieces, analysis, lists, tables, raw data, ratings, charts, transcriptions and many other materials which might be useful for journalists in their respective newsrooms)
12. **Textuality-** This implies that the vast majority of news agencies work only with text, not pictures nor sound).

Globalization

Globalization is the expansion of communication links between different regions whereas colonialism was the expansion of both power and territory. Daly (1999) cited in Haruna and Ibrahim (2014) defined globalization thus;

Globalization refers to the increasing importance of international trade, international relations, treaties, alliances, etc. International of course means between or among nations. The basic unit remains the nation even as relations among other nations become increasingly necessary and important”.

Another scholar, (Giddens (1990) stressed that time - space compression and the extension of social relations in the modern era defines globalization as “the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa”. Giddens recognizes the fact that this entails a dialectical process since such local happenings may move in an opposite direction from those that shape them.

Quoting Fukuyama (2006), Abd El (2015) stated that globalization is an extension of colonialism. Globalization is an advanced form of capitalism, which leads to an unequal growth of enterprises based on dissimilar conditions. Furthermore, advanced capitalism leads to monopoly capitalism, which is a combination of manufacturing processes. In this system, large companies unify different sectors of an industry and accessories. For example, an organization could start out as a mining company then grow to start refining oil. Eventually, the same company could invest in the production of petroleum-based chemicals and plastic. Ideally, the combined production augments the firm’s position in the market. Ultimately, this could lead to unfair trade practices given that one firm controls the quality of products and the prices.

Globalization is thus defined as a process that is based on international strategies, aims to expand business operations on a worldwide level, and was precipitated by the facilitation of global communications due to technological advancements, and socioeconomic, political and environmental developments. The goal of globalization is to provide organizations a superior competitive position with lower operating costs, to gain greater numbers of products, services, and consumers. This approach to competition is gained via diversification of resources, the creation and development of new investment opportunities by opening up additional markets and accessing new raw materials and resources. Diversification of resources is a business strategy that increases the variety of business products and services within various organizations. Diversification strengthens institutions by lowering organizational risk factors, spreading interests in different areas, taking advantage of market opportunities, and acquiring companies both horizontal and vertical in nature.

Scholars like Kanter & Pittinsky, in Okpaga (2003) defined globalization from an economic perspective. According them, globalization is the process through which the nations in the globe and their economics are increasingly integrated as a function of rising cross border economic activities. Cross border refers to the material transfer of human (people) and material resources as well as nearly instantaneous communication, which is often made possible by the emerging communication technology. From this definition, is obvious that globalization is the process of transferring and exchanging certain economic structures identities and practices

among different nations of the world. For example, Germany as a country can exchange economic practices with Nigeria.

From the political perspective, Izuogu, in Nwosu and Soola (2007) describes globalization as a process which has to do with a world wide spread of ideological doctrine of liberal democracy. Thus, globalization involves the transfer or transformation of relationship between states that have well established liberal democratic institutions and those that are yet to reach that level. It equally involves the transformation of institutions, groups and universalization of some practices, identities and structures, which are kin to those of the advanced countries, the integration and interdependence of the entire global system, are made possible through the advances in technology.

NEO-COLONIALISM

The concept of neo-colonialism refers to the practice of using economics, globalization, cultural imperialism and conditional aid to influence a country instead of the previous colonial methods of direct military control (imperialism) or indirect political control (hegemony). The term neocolonialism was coined by the French philosopher Jean-Paul Sartre in 1956 and first used by Kwame Nkrumah in the context of African countries undergoing decolonization in the 1960s). The result of neo-colonialism is that foreign capital is used for the exploitation rather than for the development of the less developed parts of the world. Investment under neo-colonialism increases rather than decreases the gap between the rich and the poor countries of the world.

Neocolonialism is also discussed in the works of Western thinkers such as Jean-Paul Sartre (*Colonialism and Neocolonialism*, 1964) and Noam Chomsky (*The Washington Connection and Third World Fascism*, 1979) (Arnold,2010). Nkrumah theoretically developed and extended to the post–War 20th century the socio-economic and political arguments presented by Lenin in the pamphlet *Imperialism, the Highest Stage of Capitalism* (1917). The pamphlet frames 19th-century imperialism as the logical extension of geopolitical power, to meet the financial investment needs of the political economy of capitalism. Neo-colonialism is said to be the last stage of imperialism. This argument is supported by Kwame Nkrumah’s submission that:

“In place of colonialism, as the main instrument of imperialism, we have today neo-colonialism which like colonialism, is an attempt to export the social conflicts of the capitalist countries”

The result of neo-colonialism is that foreign capital is used for the exploitation rather than for the development of the less developed parts of the world. Investment, under neo-colonialism, increases, rather than decreases, the gap between the rich and the poor countries of the world. The struggle against neo-colonialism is not aimed at excluding the capital of the developed world from operating in less developed countries. The major aim of neo-colonialism is to prevent the financial power of the developed countries being used in such a way as to impoverish the less developed or developing countries.

Shainah (2018) argues that neo-colonialism, as it is written in *Neo-Colonialism in Africa: A Perpetuation of Western Interest and Subjugation of Africa*, “can be described as an advanced stage of colonialism because it exist in forms of the cultural, educational, industrial and technological subjugation of a former colonial territory” This definition clearly hones in on, and specifies, the salient characteristics of neo-colonialism; through education, industries, and technology, for example, former colonizers are still able to have a hold on countries that have already gained independence.

THEORETICAL FRAMEWORK

DEPENDENCY THEORY

A discourse of this magnitude cannot be holistic without a theoretical underpin. The study is therefore premised on dependency theory. The theory was developed in the late 1950s under the guidance of the Director of the United Nations Economic Commission for Latin America, Raul Prebisch. Prebisch and his colleagues were troubled by the fact that economic growth in the advanced industrialized countries did not necessarily lead to

growth in the poorer countries. The implication is that economic activities in developed countries often lead to very serious economic problems in developing countries of the world.

Generally, poor countries exported primary commodities to the rich countries who then manufactured products out of those commodities and sold them back to the poorer countries. It is on record that the "Value Added" by manufacturing a usable product always cost more than the primary products used to create those products. Therefore, poorer countries would never be earning enough from their export earnings to pay for their imports.

Prebisch's solution was similarly straightforward: poorer countries should embark on programs of import substitution so that they need not purchase the manufactured products from the richer countries. The poorer countries would still sell their primary products on the world market, but their foreign exchange reserves would not be used to purchase their manufactures from abroad.

Dependency theorists believe that existing national and international economic and political systems are the cause of their unjust situations. They call for systemic change to solve the problems. They want abrupt, non-linear, fundamental change. Rather than endorsing and embracing stability, they call for radical change. Dependency theory is relevant to the study because it explains how developing countries depend largely on international news agencies for information.

REVIEW OF GENERAL LITERATURE

INTERNATIONAL NEWS AGENCIES AS AGENTS OF GLOBALIZATION

Foreign Correspondence and News Agency Journalism rightly observed that news service business is dominated by three news agencies – Associated Press (AP), which is based in the US, Agence France Presse (AFP), which is based in France, and Thomson Reuters (earlier Reuters), whose headquarters have now shifted to Canada. Besides this, almost every nation has its own wire service. These are not powerful outside their parent countries. Some of these news services that are available in India are: Tass (Russia), Xinhua (Chinese), DPA (Germany) and Kyodo News (Japan).

The oldest news agency is Agence France-Press (AFP). It was founded in 1835 by a Parisian translator and advertising agent, Charles-Louis Havas as Agence Havas. Two of his employees, Paul Julius Reuter and Bernhard Wolff, later set up rival news agencies in London and Berlin respectively. In 1865, Reuter and Wolff signed agreements with Havas's sons, forming a cartel designating exclusive reporting zones for each of their agencies within Europe. Reuters, founded in 1851, continues to operate as a major international news agency today. The basic function of news agencies is to deliver up-to-date, impartial and well written news. This requires continuous revision of stories and additional aim is to keep intact as much of each original story as possible, so that material already set in type may be retained. The result is that a basic story will be revised many times in bits ranging from an inserted phrase to a few paragraphs.

Generally, only the timeless features and insignificant sidebars are moved in single neat packages that stand for an entire transmission cycle. The stories revised several times in order to correct errors, add the latest information and improve emphasis, readability and brightness. News agency has its own sources of news including its separate reporting section and foreign based correspondents. A separate news room performs the selection and editing process under the supervision of desk in charge and shift charge. News agency writers and editors usually work under time pressure.

News agencies have main trunk distribution circuits running across the country. In the present situation, where electronic media is on top the news agency and electronic media is also increasing their reporters but for the international news, they are relying on news agencies. Foreign and local news agencies are increasing their sources and appointing professionals to explore the world of news. News agencies can be corporation that sells news (e.g., Press Association Thomson Reuters, United Press for India (UPI)). Other agencies work cooperatively with large media companies, generating their news centrally and sharing local news stories.

The major news agencies may choose to pick up and redistribution (i.e. Associated Press, Agence France Presse (AFP), Commercial newswire services charge businesses distribute their news (e.g. Business wire, the Hugin group, market wire, PR news wire, and ABN news wire). Government may also control news agencies:

Example in China, (Xinhua), Canada, Russia ITAR-TASS and other countries also have government funded news agencies which also use information from other agencies- well.

The major news agencies prepare hard news stories and feature articles that can be used by other news organization with little or no modification, and the sell them to other news organization in bulk electronically through wire service originally, they use telegraph; today they frequently use the internet). Corporations, individual's analysts and intelligence agencies may subscribe. Internet-based alternative news agencies as a component of larger alternative media emphasis a non-corporate view that is independent of pressure of corporate media and government generated news and release. From this review, it is obvious that international news agencies are agents of globalization for the purpose of neo-colonialism.

IMPACT OF GLOBALIZATION ON INTERNATIONAL NEWS AGENCIES IN THE 21ST CENTURY

Ran (2018) in a study "International News Agencies in the Era of Global Communications: CCTV's contra-flow and the Factors that Influence US Media's Selection of News about China" argues that in the 1990s, trends toward globalization have been fueled by neo-liberal economics, government deregulation, digital technology, media conglomeration and convergence, commercialization, and the legacy of NWICO debates. Thus, the 1990s marked the beginning of another historic stage in the evolution of international news agencies (Boyd-Barrett, 2006; Boyd-Barrett & Rantanen, 2004; Hamelink, 1994). Bielsa (2008) in a study titled "The pivotal role of news agencies in the context of globalization: A historical approach." Argued that in the last two decades, production of international news has been concentrated and, unprecedentedly, deregulated in terms of ownership and operation of communication channels. Furthermore, technological developments have created a field where increased competition has challenged the status of the Big Four and reconfigured the market for international news.

One of the Big Four international news agencies, UPI, has gone through a prolonged crisis since the 1980s, with several ownership changes. In fact, its status as a major global news player was lost. While Reuters' revenue, secured by its financial news services, boomed in the 1990s, another Big Four international news agency, AP, experienced significant revenue loss. According to Rantanen & Boyd-Barrett (2008) argues that the loss surged to \$25.8 million in 1995. AP's difficult situation showed that its position as a global news agency was declining. This decline has been attributed to two reasons. One is competition from Reuters, AFP, and syndicated services from newspapers. The other reason is that in the changing U.S. media market monopolized by cooperative agencies, AP owned special benefits, enabling it to gain high member assessments that helped boost revenue. However, AP delivered news service to 94 percent of U.S newspapers by 1994, and whereas UPI only occupied 11 percent of the newspaper clients, advertising revenue due to the growing popularity of internet technology.

In France, AFP still maintained its strong position as a global news agency, although its revenue lagged behind AP. However, its revenue, by depending on governmental agencies has been reduced from more than 60 percent in the 1970s to over 40 percent now. As the only mainstream non-Anglo-American news agency, AFP's role in coverage of Asia, Latin America, and Africa remained significant (Rantanen & Boyd-Barrett, 2008). Williams (2011) in a study on "Williams (2011). International Journalism" explained how two factors contributed to the decline of the Big Four's control of international gathering and distribution of news. One is that the international news market became more and more competitive. Another is that satellite- broadcasting technology and audiovisual news formats fast developed during this period.

In the 19th century, when Great Britain controlled most of the undersea cables, international news agencies in the West were able to monopolized the technology and thus report events around the world. But in the age of communication satellites in the late 20th century, many countries, including nations in the developing world, gained access to communication satellites because of globally established satellite infrastructure. At this point, international news in the form of television and audiovisual formats disseminated via satellite technology became very important products. In the words of Bielsa (2008), the dominance of visual news agencies was an important development in the 1990s.

In a study titled "Inside the BBC and CNN: Managing media organizations" Kung-Shankelman (2000) argues that two of the traditional Big Four agencies have branched out to become competitive global TV news

agencies: Reuters Television and Associated Press Television (APTN). These were born, respectively, in 1992 and 1994, and dominate the area of visual news. However, the competition posed to the traditional news agencies is significant. In this context of international news revolution driven by news technology and deregulation of broadcasting industry, the U.S. commercial satellite channel, Cable News Network (CNN), inaugurated the 24-hour continuous news service and grew up to be the most prominent international news station in 1990s. The point here is that CNN took advantage of satellite technology and networks to “blanket the world”

Thussu (2007) in a study titled “Mapping global media flow and contra-flow” rightly observed that CNN rapidly boomed in the international news market, established broadcasters, such as the British Broadcasting Corporation (BBC), had to make reforms by adopting CNN’s news coverage style and operational strategies. BBC World Service Television was launched in 1994, with similar number of audiences in 200 countries and territories. CNN’s success also encouraged the organization of contra-flow of news from developing TV stations to play the global news game. Painter (2008), in a brilliant study on “Counter-hegemonic news: A case study of Al-Jazeera English and Telesur” pointed out that an estimate of over 100 international TV news stations have been established since CNN made its name. Many of these claimed to provide “a different vision of news content to the main Western media” and, therefore, are regarded as fighters against Western media hegemony (Painter, 2008). As CNN established its reputation in the global TV news market, a non-Western big player, Al Jazeera, appeared to challenge Western dominance in international information flow. Founded as a pan-Arab 24-hour news channel in 1996, and committed to providing objective reporting and different points of view, Al Jazeera led a revolution in the Arab world. It introduced new democratic practices of broadcasting and broke an Arabic tradition that media had to be subordinated to the government.

Miles (2005) in a study on “Al-Jazeera: How Arab TV news changed the world” argues that by strongly advocating for media values of objectivity, accuracy, and balanced and factual reporting, Al Jazeera has been internationally recognized as a global TV news channel to “communicate with the West in its own language about issues pertaining to the Middle East as a direct, credible, alternative source of information” Al Jazeera created another historic challenge to Western media’s dominance in international news. Boyd-Barrett (2015) in a study on “Media imperialism” carefully analyzed the evolution of Al Jazeera as a significant exemplar of a contra-flow. He argued that the rise of Al Jazeera became a concern to the United States, which has been a hegemonic influence over global news flow for a long time. Al Jazeera, funded by the emir of Qatar, has reached a broad range of audiences in the Western world with the aim to better speak for Qatar’s foreign policy goals. Boyd-Barrett observed that through the coverage of the conflicts in Libya and Syria, Al Jazeera gained increasingly more audience attention by complementing U.S. news agencies’ coverage. Seib (2008) described Al Jazeera’s effect as the influence of rising international news agencies from developing or Third World countries on global politics. This influence serves to reduce Western media’s monopoly on information while giving voice and power to previously marginalized nations, regions, and groups.

In the national news markets, the effects of globalization, media deregulation, commercialization, and technological innovation has led to tremendous change. While the NWICO movement faded, many national news agencies continued to struggle to survive and faced difficulties when entering the 21st century. For instance, in the 1990s, many of them were closed or moribund for example, following the Soviet Union’s collapse, the once big international news player, TASS, was transformed to a Russian national news agency: ITAR-TASS. TASS’ performance on the stage of international news agencies thus ended. The end of Soviet communism also created a nightmare to Central and East European national news agencies controlled by the state. These were replaced by new or reorganized commercial businesses. The implication is that news agencies and globalization are used by developed countries to continuously control developing countries of the world or third world countries.

INTERNATIONAL NEWS AGENCIES, GLOBALIZATION AND NEO-COLONIALISM

International news agencies have the advantages of extensive global network, fast circulation, easier circulation, assist the media, versatility, not bound by location, are highly economical as well as wider reach. Based on this, many newspapers that can’t send their reporters around the world manage to get coverage with a subscription

Globalization on the other hand is said to be the expansion of communication links between different regions whereas colonialism was the expansion of both power and territory. As earlier captured by Daly (1999) in Haruna & Ibrahim (2014), “globalization refers to the increasing importance of international trade, international relations, treaties, alliances, etc. International of course means between or among nations. The basic unit remains the nation even as relations among other nations become increasingly necessary and important”.

Globalization is also described as a process by which events, decisions and activities in one part of the world can have significant consequences for individuals and communities in distant part of the globe. To this end, globalization is best described at action at distance. Globalization brings together certain activities, some important while others are trivial. Sambe (2014) posited that globalization has two sides namely the positive and negative as it has proven to be useful and harmful since luxury and poverty co-exist in a global community.

On a positive side, globalization has the potential to eradicate poverty and it can help in propagating local and international cultures. Similarly, globalization has enriched some nations and brought about unprecedented break-through in the era of global communication. On the negative perspective, globalization has an economic consequence of widening the gap between the rich and poor, global wealth has undoubtedly increased under globalization although such wealth has become concentrated in fewer hands and few countries. This is while globalization has been influenced by market forces whose major interest is in nothing but interest. Globalization has also promoted crime and terrorism in addition to the promotion of diseases, virus of all kinds etc.

News agencies are therefore used as globalization agents to dominate third world countries of the world. International news agencies promote both the positive and negative aspects of globalization depending on the prevailing circumstances. Developed countries of the world and powerful nations with robust economic and technological advantage dominates the media at the expense of developing countries and this domination no doubt bridged the gap between the rich and the poor countries. In a study on “Neocolonialism in Africa and the Cases of Turkey and Iran” (Glen,2019), argued that neo-colonialism is the best term that could be used to describe this reality, since for all intent and purposes, the practices of colonialism were continued by the former colonial masters for they still dominated and controlled the economics, society and even religion of their former colonies. In this, they were joined in part by the corporations of the United States and global bodies that they and the Soviet Union promoted.

The best way to describe this scenario is neocolonialism, since for all intent and purposes, the practices of colonialism were continued by the former colonial masters for they still dominated and controlled the economics, society and even religion of their former colonies. By doing this, they were joined in part by the corporations of the United States and global bodies that they and the Soviet Union promoted. Neo-colonialism is said to have several conceptual influences. It owes much to Marxist thinking because of the clear linkages between foreign motivations and capitalism, explained by Leninism that ‘Capitalism in which a certain group of countries have their economics conditioned by the development and expansion of another economy, in which the former is subject’ and ‘the relation assumes the form of dependence when some countries (the dominant) can expand and give impulse to their own development, while other countries (the dependent) can only develop as a reflection of this expansion’ and ‘the basic situation of dependence leads to a situation in dependent countries that situates them in backwardness and under the exploitation of the dominant countries. This permits them to impose conditions of exploitation

International news agencies and globalization have a clear relationship with neocolonialism is best described as a coordinated effort by former colonial powers and other developed countries to block growth in developing countries and retain them as sources of cheap raw materials and cheap labor. This effort was seen as closely associated with the Cold War and, in particular, with the U.S. policy known as the Truman Doctrine. Under that policy the U.S. government offered large amounts of money to any government prepared to accept U.S. protection from communism. This singular act enabled the United States to extend its sphere of influence and, in some cases, to place foreign governments under its control. The United States and other developed countries also ensured the subordination of developing countries, critics argue, by interfering in conflicts and helping in other ways to install regimes that were willing to act for the benefit of foreign companies and against their own country’s interests.

Watts (2009) in "International Encyclopedia of Human Geography," posited that neocolonialism more than anything was a key marker of a certain sort of 1960s Third World nationalism. Neocolonialism was a by-product of its largely African and Marxist origins, of the Bandung movement, and of the contradictions of decolonization as it unfolded in the wake of World War II and in the heart of the Cold War. For a while, it was central to thinking of the theories of imperialism within a Marxist frame but it fell out of intellectual fashion. The so-called neoliberal counter-revolution and the devastating consequences of structural adjustment and economic reforms on a large part of the Global South (and Africa, in particular) has given neocolonialism a shot in the arm (seen in the various forms of anti- or alternative globalization movements).

RECOMMENDATIONS AND CONCLUSION

This chapter recommends that third world countries should improve on the existing media stations available with a view to minimize the over dependency on international news agencies for information about events within and outside their immediate environment. The existing media in developing countries should churn out content that will be useful to their ever-increasing audience members as this would minimize the over dependency on foreign media. Leaders in developing countries should focus on making life meaningful for their citizens to minimize the over dependency on developed countries. The chapter concludes that international news agencies are used by developed countries of the world as agents of globalization to further promote neocolonialism in developing countries. Globalization is an extension of colonialism as well as an advanced form of capitalism, which leads to an unequal growth of enterprises based on dissimilar conditions. This explains why international news agencies negatively report issues and events about developing countries as countries plagued by insecurity challenges, war, diseases/ epidemics, corruption, hunger, political instability among others.

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DETECTING CYBERBULLYING IN SOCIAL MEDIA PLATFORMS USING MACHINE LEARNING ALGORITHMS

**N. Bargavi **Gowtham Aashirwad Kumar*

**Associate Professor, Dept of Management Studies, Bharath Institute of Higher Education
& Research, Chennai.*

***Assistant Professor, Dept of Management Studies, Bharath Institute of Higher Education
& Research, Chennai.*

ABSTRACT

Since the last decade, there has been a rising trend in the cyberbullying cases worldwide. With the proliferated use of internet and social networking sites, cyberbullying has become one of the biggest threats to the virtual community. Cyberbullying refers to repetition of aggressive behavior in an electronic mode through texts, online messages, e-mails or any form of communication. The exploitation of social media platforms with the help of technological advancements has augmented the problems of destructive behaviors, harassments, humiliations and cyberstalking in the virtual world. This can have detrimental effects of the mental health of individuals in today's drastically changing environment. This chapter intends to share some literature and insights on analyzing the reasons for aggressive behavior on Social Media Platforms (SMP), stating the significance of predictive models of cyberbullying, assaying the detection of cyberbullying crimes using machine learning algorithms, concluding with the issues and challenges of detecting cyberbullying in SMP's.

Key Words: *Aggressive behavior, Bullying, Harassment, Machine learning, Social media platforms.*

1. INTRODUCTION

The last decade has unleashed avalanche of changes to the virtual community. Today, the world is more connected than it was ever before with social networks like Facebook, Instagram, Twitter, Skype, and many more. A snap, a text, a emoticon, a joke, whatever that comes to our mind can be instantly shared instantly throughout the globe in matter of seconds. The rise of artificial intelligence mechanisms, growth of the gig economy, increased work diversity, and most recently, the global pandemic has changed the way people use technologies to interact with each other. Advanced communication methods depend on online technologies. This gives rise to pernicious behavior among some people. One of the detrimental outcomes of such behavior can be pointed out as Cyberbullying. Cyberbullying is attributed by shift in traditional abuses or harassments to online modes through social networking sites (Li, 2007). Continuous divulgence in social media networks and interaction with people using internet has put user's safety at stake. The user's psychical health is a matter of question mark as an outcome of cyberbullying. Several studies have demonstrated that cyberbullying and online abusing are threats to the users of social networks (Kowalski et al., 2014; O'Brennan et al., 2009). Problems emanate when technology that is ought to bring people in unison has been used to harass, abuse or stalk others out of their social networks into a vacuum that is filled with solitude, fear, depression, embarrassment, guilt or shame. This is the bitter truth of cyberbullying. Different forms of cyberbullying include sending threatening messages or emails, spreading gossips or rumors about another person that damages their reputation, creating blogs or content making fun of other's sentiments, chatting with someone in instant messages and deceiving them to reveal their personal information, creating polls where people who log in are asked to rate individual's attributes in a disavowal way, sharing false information on online boards, false representation of one's character and mocking at them, barging into an email account to send abusive messages under a person's identity etc. Cyberbullying takes place virtually across all social media websites. Facebook has around 3 billion active users although many teens are shuffling between other networks like Instagram, Twitter, Snapchat etc. Facebook has become one of the most common platforms for cyberbullying with perpetrators creating fake profiles to deceive others (Mary Aiken, 2016). There aren't any restrictions enforced for users while indulging in social media sites. Many researchers argue that youngsters are not psychologically mature to discern the contrecoups of what they

see, chat, post or share online. This has resulted in a drastic increase in number of Cyberbullying cases worldwide. This chapter further delves into analyzing the reasons for aggressive behavior on Social Media Platforms (SMP), stating the significance of predictive models of cyberbullying, assaying the detection of cyberbullying crimes using machine learning algorithms, concluding with the issues and challenges of detecting cyberbullying in SMP's.

2. AUGURING AGGRESSIVE BEHAVIOR IN SMP:

In earlier days before the advancements and inventions in the field of technology, interactions between people and groups happened within limited societal boundaries (Quan et al., 2011). With the surge of ICT, the restrictions on spatial accessibility to interact with each other started minimizing gradually. In the last one-decade, virtual interactions have moved towards user-based technology; giving more freedom in the hands of people who use SMP's. Social networks have turned as a vital mode of communication for millions of internet users globally. Users share data via discussions, post views, writing texts during online interactions. These communications of SMP users produce huge quantum of data which is very useful to study human behavior. Social media analytics can be done based on these patterns of human behavior (Ratkiewicz, 2011). SMP's have turned user-friendly these days, when compared to the complex interfaces that existed in the last decade. Online interactions have become more of fun factor in today's scenario than its traditional context of only communication. SMP's have certain attributes like timeliness, collaboration, empowerment and participation. These features facilitate perpetrators to commit frauds and cyberbullying activities with the users who become victims. Albeit, the impressive advantages of SMP's known by the users, the cyber criminals (perpetuators) use these networks to perform several misbehaviors. Some of the frequent crimes that happen in social networks are cyberbullying (Al-Garadi, 2016; Weir et al., 2011), malware contamination (Yang et al., 2012), committing monetary frauds (Dong et al., 2016) and spamming (Yardi, 2009). As perpetrators try to cheat users in virtual communities; they devise new types of aggression, violence and abuses online (Peterson & Densley, 2016). It is a new challenge to face cyberbullying, considering the exorbitant rise of ill-behaviors in social media networks (BBC Report, 2012). SMP's have given its users the choice of being free, anytime accessibility, easy viability to interact with others through verbal and non-verbal forms. This kindles the users to effortlessly exhibit their aggression or abuses on others in the social networks (Fire et al., 2014; Shekokar & Kansara, 2016).

There have been multifarious studies in the context of machine learning algorithms which have contributed to perform content analysis in the recent years. Machine learning technologies have played a vital role in producing successful models based on algorithms, in order to manage huge quantum of data in real-time (Patchin & Hinduja, 2013; Cheng et al., 2015). They have applied machine learning mechanisms to determine and run a check through social networks for activities like cyberbullying (Frommholz et al., 2016), phishing (Agarwal et al., 2012), spamming (Yardi, 2009) etc. As social media users have more laxity in their hands to post contents they wish in the SMP's, cyberbullying in the form of text messages have become rampant today (Dinakar et al., 2012; Dadavar et al., 2013; Huang et al., 2014). Before the advancements of virtual networks when mobile phones were introduced few decades back, perpetrators spammed the users in a confined manner through text messages (SMS), WAP push messages and MMS. But today, given the structural form of SMP's; perpetrators can have access to numerous profiles for making relationships and interactions irrespective of their geographic locations. This has led to increase in aggressive or abusive behaviors (Nakano et al., 2016) through methods like spamming (McCord and Chuah, 2011; Yardi, 2009; Zeng et al., 2015), cyberbullying (Weir et al., 2011), phishing (Agarwal, 2012), virus contamination (Yang et al., 2012) etc. People who are new to technologies from generations like Boomers or Gen X are the most affected because they are not aware of these fraudulent activities that can happen online. They are amateurs who fall as prey to these victims who leash out their ill-behavior and deceive them for personal benefits. So, to augur how cyberbullying takes place in virtual platforms, it is imperative to design a predictive model effectively.

3. SIGNIFICANCE OF PREDICTIVE MODELS IN CYBERBULLYING:

Cyberbullying is serious concern that has become a threat to the social media users worldwide (O'Keeffe & Clarke-Pearson, 2011; Xu et al., 2011). As cyberbullying can happen anywhere around the globe during anytime, it is strenuous for victims to escape from cyberbullying practices or stop the spread of fake information and harmful activities (Slonje et al., 2013). Also, cyberbullying can be easily exercised due to the instant usage

of internet and SMP's (Kowalski, 2012). The fame and increase in SMP's have given rise to cyberbullying crimes also. In SMP's like Twitter, victims can remain anonymous while posting messages or publicly expressing their opinions to the huge audience (Fire et al., 2014). The effects of public cyber-bullying are more incendiary than harassing a person in private chats (Sticca & Perren, 2013; Wen et al., 2014). With the gradual increase in virtual interactions and number of new social media platforms (Whittaker & Kowalski, 2015), cyberbullying attackers can exercise detrimental effects on the psychic well-being of people (Kowalski & Limber, 2013). The damage it unleashes on the common man is so heavy that people tend to suicide and end their life; instead of facing the threats in the fear of loosing their image (Sampasa-Kanyinga et al., 2014; Hinduja & Patchin, 2010). In this context, there has to be a monitoring system for the prevention of cyberbullying in SMP's. Traditional methodologies to cope up with cyberbullying will not work out anymore in the millennium of big data and analytics (Van Royen et al., 2016). As cyberbullying can take place in any form like harassments or sharing hatred posts, body-shaming victims, insulting users etc. (Li, 2007; Tokunaga, 2010), it is high time that a model for auguring cyberbullying practices is designed to provide relief to human beings and enhance their mental health.

4. ASSAYING CYBERBULLYING USING MACHINE LEARNING ALGORITHMS:

Today, the world is more connected and webbed than has it ever been. We are living in the era of big data as 2.5×10^{18} quantum of data is utilized daily throughout the globe (Dihuni, 2020; Wu et al., 2014). Businesses perpetually keep generating huge amounts of data from different sources like the www, sensor connections, SMP's etc. These data have nine traits like volume, variability, velocity, variety, complexity, value, verdict, validity and visibility (Wu et al., 2016). Websites like Google generates 20,000TB of data everyday (Zhang et al., 2018). So, these SMP's can process either structured or unstructured data. Social media analytics is used to analyze these forms of data by link prediction, social impacts, content loading etc. In this context, a predictive model can be developed to diagnose cyberbullying practices by designing machine learning classifiers from labeled text instances (Dadvar et al., 2012; Chavan & Shylaja, 2015; Forman, 2003; Galán-García et al., 2014), or by constructing a lexicon-based model consisting of semantic orientation through seed words (Turney, 2002; Tong, 2001). Studies on detection of cyberbullying practices have used machine learning models in the existing body of literature (Van Hee et al., 2015; Hosseinmardi et al., 2015; Mangaonkar et al., 2015). This technique has proved to be effective in diagnosing cyberbullying to a moderate extent (Sanchez & Kumar, 2011).

Machine learning uses algorithmic processes to determine and formulate the patterns between different sets of data (Andrieu et al., 2003). Algorithms when executed try to analyze the correlation between datasets and come to a conclusion (Libbrecht & Noble, 2015). Machine learning enhances the efficacy of detecting cyberbullying crimes by executing analytical models (Galán-García et al., 2014, Mangaonkar et al., 2015) and acquiring knowledge from past experiences; in order to design relevant patterns of data (Subrahmanian & Kumar, 2017; Langley & Simon, 1995). The ability of machine learning technology depends on maneuvering past data to diagnose, discern and forecast huge quantum of data from SMP's. Similarly, lexicon models use keywords to be elaborated into a list of words beneath (Hatzivassiloglou & McKeown, 1997). Texts prevail in an unstructured format in social media networks which makes it time consuming for the lexicon method to diagnose cyberbullying terms or phrases (Tong, 2001; Nadali et al., 2013; Chen et al., 2017). This is the reason why detecting cyberbullying crimes using lexicon models are scarce in the body of literature.

The most commonly used type of machine learning algorithms are the supervised algorithms (Squicciarini et al., 2015). The degree to which machine learning algorithms precisely converts prior knowledge about cyberbullying will determine its extent of success. Machine learning (ML) takes into consideration the elements of a specific problem and encodes certain facts (Wolper & Macready, 1997). As there cannot be a specific algorithm that can be applied to all the cyberbullying issues (Mangaonkar et al., 2015; Buczak & Guven, 2016); supervised classifiers are implemented to assay the ideal algorithm for different issues. An exclusive experiment is conducted by computer scientists to design a cyberbullying model using algorithms. Classifiers are selected depending upon the frequently used ones in the domain and its features present for conducting the experiments. Some of the commonly used predictive models in cyberbullying are –

- ✓ **Naïve Bayes Algorithm:** Naïve Bayes (NB) algorithms are designed using NB classifiers by exercising Bayes theorem in-between features. Bayes model of learning is widely used for classifying texts and it

presumes that texts are spawned by parameters that use training data to analyze the optimal estimates (Sanchez & Kumar, 2011; Dinakar et al., 2011; Chen et al., 2012). It classifies the generated data with these estimates (McCallum & Nigam, 1998). The prime assumption of this model is that NB classifiers involve arbitrary numbers of independent features that are categorical in nature (Buczak & Guven, 2016). With this presumption, high dimensional density estimates are decreased to unidimensional kernel density estimates. So, these are learning algorithms that are based on Bayes theorem with substantial assumptions of independence (Zhang, 2004_{a,b}). Therefore, Naïve Bayes Algorithm is considered to be one of frequently used methods of ML classifier in multifarious studies till now (Bora et al., 2013, Freeman, 2013).

- ✓ **Logistic Regression:** This is widely accepted method that got extracted into ML and computing from statistics (Dreiseitl et al., 2001). This type of algorithm develops a hyperplane between two sets of data by a logistic function. This regression algorithm uses inputs and produces an estimate as per the approximate probability of the input for a class. For instance, having a probability greater than 0.5, a positive classification is seen; wherein the prediction is for another class which is negative (Hosmer et al., 2013). Likewise, logistic regression is used to develop cyberbullying predictive models (Mangaonkar et al., 2015; Chavan & Shylaja, 2015).
- ✓ **Support Vector Machine:** SVM has also been extracted from the field of statistics (Tong & Koller, 2001). It is a supervised or controlled machine learning classifier which is universally used for text classification. It is developed by creating a separate hyperplane in the feature of two classes where the orbit is maximized between hyperplane and the adjoining data point of each class (Hsu et al., 2003; Joachims, 1998). In SVM algorithms, the optimum separation refers to a separate hyperplane which reduces the misclassifications visible in the training step. This approach is dependent on minimum classification risks (Buczak & Guven, 2016; Vapnik, 2013). SVM has been used earlier for categorizing linear separatable classes of data; like positive class or negative class. SVM examines the exceptional hyperplane which yields the highest margin by enlarging the distance between hyperplane and the closest datapoint of every class. In real-time runs, ascertaining the hyperplane that separates accurately is very much strenuous. So, SVM has been designed to solve these issues and it can also be used as a classifier for classes that are cannot be separated. SVM is an efficient algorithm for classification due to its special attributes. Using the Kernel model, SVM has the ability to separate non-linear features by changing them into high dimensional space (Boser et al., 1992). The main benefits of this model are its scalability, efficiency and speed while updating the data patterns. SVM is effective as a tool for predicting cyberbullying models (Dadvar et al., 1992). Earlier studies have proved this model to diagnose profane contents in SMP's cogently (Chen et al., 2012; Chavan & Shylaja, 2015). Datasets comprising of profane words or abusive texts are extracted from SMP's to build a model to detect cyberbullying cases (Dadvar et al., 2012; Van Hee et al., 2015). SVM has been used in previous researches to diagnose cyberbullying from SMP's like YouTube, Twitter etc., which has been proved highly successful (Liu et al., 2016; Miller et al., 2014; Jeong et al., 2016).
- ✓ **Decision Trees:** Decision Trees are very simple and easily understandable for diagnosing cyberbullying texts in social media networks. This method uses algorithms to examine and interpret data to create a graphical model for classification (Dinakar et al., 2011). C4.5 model has been developed by Ross Quinlan for the purpose of classification. This version is highly powerful and effective to predict cyberbullying crimes; gaining popular rankings in top ten algorithms in the field of data mining (Wu et al., 2008; Reynolds et al., 2011). C4.5 primarily creates an initial decision tree using divide and conquer algorithm (Wu et al., 2008). All the samples in the list will belong to the same class. In this context, it simply creates a leaf node for the decision tree saying to choose this class. In each of the tree nodes, C4.5 selects a specific data attribute which will effectively split sample sets into subsets of one class or other. This splitting criteria is normalized information gain and the data attribute with highest normalized gain is selected to make decisions. Later, the C4.5 algorithm executes recursion on the partitioned subsets. So, the improvised version of decision trees used for detecting cyberbullying is C4.5 model.

- ✓ **Random Forest (RF):** RF has been used in the developing predictive models for cyberbullying (Van Hee et al., 2015; García-Recuero, 2016). RF is perceived as a machine learning model which conjoins decision tree and ensemble learning methods. This technique places multiple classification trees into one dataset and integrates the prediction from all decision trees (Cutler et al., 2007). So, Random Forest modelling consists of multiple trees which are used to select feature variables for classifier inputs in a random manner. Random decision forests builds a model that consists of tree-like classifiers in groups; where the each tree counts for the most popular class. This most popular class is chosen as the output. Random Forest Classifiers has certain advantages –
 - It decreases the overfitting in decision trees which improves accuracy levels.
 - It is easily feasible and changeable for classification and regression.
 - It works perfectly on categorical and continuous variables also.
 - It automatically fills the missing values in a dataset.
 - Data normalization is not mandatory in RF modelling as it uses rule-based methodology.

5. ISSUES & CHALLENGES IN THE CONTEXT OF CYBERBULLYING:

The intention of repeatedly harming another person to an extent that the victim finds it arduous to defend against the attacker is termed to be bullying. Cyberbullying is referred to an aggressive behavior in virtual platforms continuously against a victim who can't rebel back (Slonge & Smith, 2008). There are two major issues applicable to online platforms. First, measuring the continuity of cyberbullying over time; and the second is measuring the strength of a victim who can't defend themselves (Slonge et al., 2013). This has to be concisely discussed in order to simplify the aspect of cyberbullying. Earlier studies have stated that contents in virtual networks cannot be eliminated easily (Dooley et al., 2009). So, a simple clarity in the context of cyberbullying is required as a prime step to develop predictive models in machine learning.

Delving into the issues related to machine learning, computer scientists have to test and run many ML algorithms for determining the optimal classifier which will suit a predictive model precisely. There are certain challenges involved in augmenting ML algorithms for diagnosing cyberbullying practices in social media platforms. They are –

- *Linguistic efficacy:* People use different languages when they access social media networks. Their native language may be different from the language they use to text and communicate with others in SMP's. As languages are swiftly changing, new dialects and slang of languages will become a part of the culture. So, dynamic algorithms have to be built, tested for updating the new words and detecting the new slangs in languages in social media. This process has to keep on going continuously for a long period of time; which is difficult in reality.
- *Unaided Machine Learning:* Unsupervised or free machine learning has been outweighed by supervised / controlled learning. This may be due to the fact that the inputs for supervised algorithms depend on manually classified data. So, finding patterns amidst two classes by unsupervised grouping is arduous. For this, deep learning is needed to build unsupervised algorithms for detecting data patterns in social media. NLP is a new field of emerging research in deep learning which can be a solution to the above difficulty (LeCun et al., 2015). Natural Language Processing gives machines, the ability to understand text and spoken words in the same way humans can. This area is still unexplored to develop more predictive models of cyberbullying.
- *Human Attributes:* Albeit the fact that big data analytics gives valuable insights to understand human behavior, developing human predictive models comprise of steps where subjectivity and rationality of human behavior exists (Boyd & Crawford, 2012). Subjectivity will be prevalent throughout all the stages of model building. Examining human behavior is essential, but at the same time strenuous too. To predict human behavior, the existing patters should be merged with future inputs and data in order

to represent the features precisely. So, updating the predictive models time to time is a prerequisite to meet the changes in human behavior.

CONCLUSION

This chapter discussed the significance of predictive models of cyberbullying and assaying the detection of cyberbullying crimes using machine learning algorithms. The different techniques used for building predictive models have also been discussed above. This study contributes in exploring certain predictive models for detecting cyberbullying practices through machine learning. Finally, the issues and challenges relating to prediction of cyberbullying practices have also been discussed. In future, precise detection of cyberbullying models is highly appreciated.

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TRAJECTORY OF INDIA ECONOMY

**S. Sujatha*

**Assistant Professor in Economics, Mahalashmi Women's College of Arts and Science, Parutipattu Avadi*

ABSTRACT

This paper tries to have a look on the Trajectory of Indian Economy in 21st century where the world is facing crises. The Author tried to highlight Trajectory for Economic development from the Articles published in Times of India. Further appraise the Economic Theories relevant in 21st century. The father of Economics Adam Smith and Alfred Marshall who separated economics from political economics over the years rightly pointed out that Wealth and Welfare are the two sides of the coin both have to exist simultaneously. Today the Global economy is trying to maintain sustainable growth and development in particular from 2019 onwards facing pandemic war. World is trying its best level in maintaining Wealth and Welfare throughout irrespective of G7 or G21 Nations. It is the time to get together to set a strategy in maintaining the livelihood of the people. The government chief Economist Krishnamurthy Subramanian pointed out in [Times of India] that "Vaccination is important not only for the health of the people but also for the health of the Economy". The Sectors of the economy plays a key role for growth and development here is the glimpse from [Times of India] the Agricultural sector grew by 3.1%, the manufacturing sector grew by 6.9% and the service sector grew by 14.5%. Adding to the statement finance minister Nirmala Sitharaman announce stimulus package of expansionary budget with Infrastructure spending are the amid demands to support the growth of the economy. Government consumption final expenditure increased by 28.4% and the private final consumption expenditure increased by 2.7%. Regarding International trade exports increased by 8.7% and Imports increased by 12.3%. Government and Reserve bank of India had reveal a rate of measures to restore growth. Therefore each and every sector contribution for tremendous holistic approach is inevitable.

Key Words: *Trajectory, Economic Theories, Global economy, Vaccination, Pandemic war, finance, Infrastructure, International trade, Government and Reserve bank, holistic approach.*

INTRODUCTION

This paper tries to have a look on the Economic Development Trajectory in 21st century where the world is facing crises. The Author tried to highlight Trajectory for Economic development from the Articles published in Times of India. Further appraise the Economic Theories relevant in 21st century. The father of Economics Adam Smith and Alfred Marshall who separated economics from political economics over the years rightly pointed out that Wealth and Welfare are the two sides of the coin both have to exist simultaneously. Today the Global economy is trying to maintain sustainable growth and development in particular from 2019 onwards facing pandemic war. World is trying its best level in maintaining Wealth and Welfare throughout irrespective of G7 or G21 Nations. It is the time to get together to set a strategy in maintaining the livelihood of the people. Government and Reserve bank of India had reveal a rate of measures to help restore growth. Therefore each and every sector contribution for tremendous holistic approach is inevitable.

WEALTH AND WELFARE

The father of Economics Adam Smith and Alfred Marshall who separated economics from political economics over the years rightly pointed out that Wealth and Welfare are the two sides of the coin both have to exist simultaneously. World is trying its best level in maintaining Wealth and Welfare throughout irrespective of G7 or G21 Nations. It is the time to get together to set a strategy in maintaining the livelihood of the people. The Sectors of the economy plays a key role for growth and development here is the glimpse from [Times of India] the Agricultural sector grew by 3.1%, the manufacturing sector grew by 6.9% and the service sector grew by 14.5%. Wealth and welfare of an economy can be achieved by monetary progress, three sector of the economy, sustainable development, education sector and Holistic approach towards the economic growth and

development. Recently India memorizes Dr C.T Kurien an Economist and Teacher on his 90th birthday. He wrote a book on Wealth and Welfare in 2012 at that time he was 80 years old Professor M.A Oommen said it in Article Times of India.

MONETARY PROGRESS

Reserve Bank of India [RBI] stands in its position in uplifting the Growth and development during the Pandemic crises even though the growth rate estimate is not pronounceable. [Times of India] states easing the Repo rate monetary float in to the economy that is more and more of spending. Here comes Keynesian economics four sector model which gives a hope that one person's expenditure is another person's income. Thus the money circulates within the economy it should not hold at any case. There is a discussion whether the Government should go for printing of notes it will future weaken the economy. Direct monetization is absolutely the last resort in any country highlighted by Mr D. Subbarao. The cost on one side increased and on the other side the price of the commodity is also increased given a trend for inflation. In case of Indirect Expenditure in Infrastructure Keynesian economics theory on savings and Investment once again holds good. The Sources further states that Finance Minister clearly indicates that there is a declining trend in all the spear of the economy. The existing investment and the venture capital are the boost for economic growth and development whereas in recent times it was been diverted from production for profit to production for health care and Life science.

The RBI governor Shaktikanta Das pointed out that after 30 years of economic crisis countries with highest foreign exchange reserves of which china 3,222\$ bn , Japan 1,388\$bn , Switzerland 1,072\$bn , Russia 605.2\$bn and India 605\$bn helps in exchange rate volatility demands. It is a wonderful record that India has increased direct tax collection to 22% in the current financial year 2021 source government calculation. The source [Times of India] from venture intelligence says there is a big dip compared from May 2020 to May 2021 that is 10.5 to 2.5 in billion dollar whereas the number of deals increased from 47 to 50.

THREE SECTOR ECONOMY

Adam Smith Wealth Economics the GDP plays a vital role in contribution from three sectors of the Economy. The [Times of India] source says that I.T sector generates 8% of GDP, Agriculture sector generates 15% of GDP and Large and Small manufacturing firms generates 24% of GDP is the base for per capita income. The productivity, sales, revenue and profit from the major sectors decides the income of an individual person. Massive employability in all these sectors is the challenge for both the center and state Government. Apart from government, private sector plays a vital in offering employment.

In this pandemic private sector contribution is extremely laudable. It is a great Dharma each and every individual contribution is impressive for the economic growth and development. Rejuvenation of Hierarchical society is the need of the hour. [GDP] Gross Domestic Product includes the production of three sectors of the economy its total production to the National Income. Keynesian economics theory of employability of asking the people to dig the road and lay the road holds good. In [Times of India] Department for Promotion of Industry and Internal Trade [DPIIT] listed out the Top Industries in its source they are IT, Healthcare and Life Sciences, Education, Professional and commercial services, Agriculture and Food and Beverages helped to navigate Entrepreneurship.

Future [Times of India] says that the government has recognizes 50 thousand startups across India. These Startups are in 623districts with at least one start up in each state and [UT] Union Territory While Maharashtra, Karnataka, New Delhi, Uttar Pradesh and Gujarat have the highest number of Startups. The top industries have given a way for these startups criteria for the policies are inevitable. The changing trends in the Pandemic is MSME, Start ups in Bio medical, Ayurvedic treatment, Traditional Products like Jawar , Millets , Mice and Life style like Yoga Pranayama which given a boost for economic growth at the same time Inflation Pressure on Technical Products in the Digital Economy is unavoidable. Agriculture and Service Sectors Plays a vital role in Economic GDP Whereas Industrial Sector contribution declined due to Trade Process. It is very interesting to note that Retail and Wholesale trade brought under MSME Act in the year 2006 but it was been dropped off by the committee in the year 2017. It is a corridor in the year 2021 all the three sectors can take advantage of bank

loans, retail and wholesale trade enterprises. The New configuration in the year 2021 is that the Finance Minister will administer the functioning of 36 PSU's a move towards privatization process.

SUSTAINABLE DEVELOPMENT

The Indian Economy faces the second wave of corona virus; the household's faces hardships in survival, safety and Precaution. Our Government bridges the gap between rich and the poor making the rich people in spending the money on traveling, restaurants and retail commercial outlets so that the spending money will be made use for needy people by doles in kind or in rupees. In [Times of India] World Bank's Global Economic reports say that it is expected that the expansion of few major economies will have a strong economy. Some of the Trajectory for the Households irrespective of their Monthly Income and Expenditure and family size common assessment are building up emergency fund, reducing credit card debt and save for retirement in pension schemes. Those who want start new life that is getting married, switching from job, planning to move from one place to another high risk is involved and it depends upon once saving and assets owned have to be planned in a long perspective.

In [Times of India] recently seven country summit gives a guide line for the Global Economic Trajectory. In 1970 the richest countries joined to enrich the global economy in the beginning U.S, Japan, Germany, Britain, France, Italy and Canada been the part of the richest economy. Recently Italy and Canada economy has been excluded and India and China has been included. After the Global Economic Crisis in the year 2008 President George W. Bush called for G20 Process. G7 economies will present its view to G20 economies regarding finance and Trade that is IMF and WTO. India is one of the Asia's largest economies after China and Japan. Global Economic recovery from the pandemic through Global liquidity, Global Infrastructure and Global firms this was been put forward by the summit.

TRAJECTORY OF INDIAN ECONOMY

India steps into 75th year of Independence economic reforms are trajectory which aims to achieve 5 trillion economies. Privatization in almost all the sectors with the guidance of NITI Aayog is possible. Progress as to accomplish with political background irrespective of the parties and with individual interest. Growth and Prosperity can be achieved with appreciation and encouragement. Self – sufficiency in industrialization can be achieved through [ISI] Import substitution Industries Nehru model. Heavy industries will give boost for employment this was highlighted by Nehru. In this 21st century Entrepreneurs as to make dealing with New Corporate Make in India, Start- up India, Suyam, Self-help group, MSME for women entrepreneurs. Reaching Bharat to its realistic heights is possible only through investors learning. The retail investors have to cooperate with the production concern in bridging the gap between demand and supply. The paradigm shift of new normal working is in progress specifically IT sector, e-commerce, software and pharmacy. Whereas other sectors like education, infrastructure, Tourism, real estate and defense has to improve.

It is very interesting to see an Article in [Times of India] that rich are spending the GDP estimate on Mobility like Formalization, Digitization and construction continued. The data shows that [FY 2019 – 2020] growth rate estimated as 7%. It is expected output for the [FY2022-23] will be 8%, whereas already it is 13 % higher. Usually process is that Government used to procure monetary from the public in the name of Income Tax and it redistribute it to the people in the name of doles or any benefits. Here it is happy to see that the rich people they themselves come forward to donate monetary in the name of Prime Minister Fund or in the name of chief minister fund. It is very pride to say that our country stands first in dharma even Tata, Birla's and billionaires came forward for the tremendous yagya. Spending by the rich is the real healing for the economy. Supply chain given a way for getting the necessities to the people. Online shopping given a boost to growth and more over small scale industries played a vital role in giving employment to the citizens.

This year 2021 Sveriges Riksbank prize given by the Royal Swedish Academy of science went to three people. David Card of University of California at Berkeley, Josh Angrist of Massachusetts Institute of Technology and Guido Imbens of Stanford University. This prize is popularly called the Noble prize in Economics. The work of these three and a colleague, the late Alan Krueger, has led to what is called the "Credibility Revolution" in economics. Their contribution is that Statistical correlation is not causation. They said that the stock market and petrol prices are going up together, does not mean one is causing the other. So concluded that statistical

technique to determine what is causing what, and what constitutes Spurious Correlation. It is a great contribution to the Research World. Here we have to see what constitutes Development in what way; this makes Researchers to think differently to have revolution.

HOLISTIC APPROACH

Here come the only way that is Holistic Trajectory, Indian Economy is the Holistic Economy it is a sacred land gave us Ithihasa and Puranas. The three great exponents of Vedanta philosophy Sri Ramanujacharya, Sri Adi sankara, Sri Madvacharya recognized karma as observance of the moral law of Dharma. People from different landscapes had different moorings. People tend to evolve according to the particular landscapes but vanished due to revolution. All intellectual, emotional and Spiritual wisdom streamlined Yamas and Niyamas compulsory, personnel, and social for everyone. Optimum utilization of world wealth is a great moral lesson but there is no proper distribution of wealth. In Gandhi words 'Indian believes that God has provided everything for every living being'. Indian culture has freed the human mind to aim at supreme heights of human existence. As Sri Aurobindo says in his famous Uttarpara speech after he was released from Alipore jail, "That it is for the Sanatana Dharma that they [Indian Nation] arise, it is for the world and not for themselves that they arise. Therefore it is said that India shall rise, it is the Sanatana Dharma that shall be great. India shall expand and extend herself; it is the Sanatana Dharma that shall expand and extent itself over the world. It is for the Dharma and by the Dharma that India exists.

India is celebrating 75th anniversary of Independence of India from British rule, India have to proclaim to the world what India really is which is to guide the world in spirituality. Swami Vivekananda in his Rousing call to the youth of India gave a thought that to hold on to the secular and spiritual education of the nation. Vivekananda stressed on living a meaningful life. This he directed particularly at the youth. His four mantras for living it were Physical quest, Social quest, Intellectual quest and Spiritual quest. Life is a choice at every moment, excise of choice decides ones destiny said Vivekananda. Human beings are potentially divine need transformation these trajectories definitely lead India economy number one Developed Economy.

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COMMUNICATION: AN ESSENTIAL TOOL FOR EFFECTIVE MANAGEMENT

**Anuj Aggarwal*

**Assistant Professor, VIPS*

ABSTRACT

Communication is an essential part of all relationships. It's not possible to interact with each other unless we communicate. A large part of our day is spent on communication. Communication is more important in management to co-ordinate the various activities of the organization. To achieve the goals of an organization the manager must interact with his superiors, subordinates, and various external parties. All this needs good communication skills. The paper has attempted to cover all the important aspects of communication to enhance understanding about its purpose & significance, process of communication, channels of communication, types & methods of communication, communication networks, barriers to communication and role of IT in managerial communication.

DEFINITIONS OF COMMUNICATION

- Newman and summer define communication as “an exchange of facts, ideas, opinions or emotions by two or more persons”
- Bellows, Gilson and Dionne define communications as a common by words, letters, symbols, or messages, and as a way that one organization member shares meaning with another”
- According to A. Allen, communication is “the sum of all things, one person does when he wants to create an understanding in the mind of another. It involves a systematic and continuous understanding”.
- According to Koontz and O'Donnell, communication may be understood “as the exchange of information at least between two persons with a view to create an understanding in the mind of the other, whether or not it gives rise to conflict”.

PURPOSE AND SIGNIFICANCE OF COMMUNICATION-

Modern organizations are complex social systems. No social system functions effectively without meaningful interaction between its participants. Thus, communication can be described as a means through which organizational participants are linked. According to some estimates, communication takes up nearly three fourths of an active human beings life, in the case of a manager, this percentage may be even higher. Sound communication is important due to the following reasons:

1. **Development of plans-** Planning requires an efficient management information system so that relevant facts and figures are made available to the managers at the right time Therefore, communication of required information is essential for making plans. Also ideas and suggestions have to be obtained from the employees and other stake holders for wide participation, Communication enables a manager to gather information for making plans.
2. **Implementation of plans-** The plans have to be communicated to all the employees at every level for their successful implementation. The employees should be clear about the objectives and policies of the organization. Orders and instructions must be given by the managers to achieve the goals of the organization targets are communicated and responsibilities are fixed. This results in downward communication. Similarly upward communication should be facilitated so that problems faced by workers can be conveyed to their superiors and targets can be amended. Without a smooth flow of communication this is not possible.

3. **Decision Making-** Every manager has to make decisions at various points of time. For rational decision making, a manager has to diagnose the problem and gather information. He has to communicate with a number of persons before taking the final decision.
4. **Human Resource Management-** Communication helps managers in the selection, development and appraisal of members of the organization. It helps them to utilize the manpower in the most efficient manner. Managers can lead, direct and motivate the employees through proper communication. Sound communication facilitates delegation and decentralization. It plays an important role in building up high morale in the organization. The job satisfaction of employees can be improved by creating a climate in which people are willing to contribute.
5. **Better relations with employees-** Two way communication creates understanding and trust among management and labor. Proper communication with the trade unions leads to resolution of conflicts and, better industrial atmosphere. Workers express their grievances which reduces tension. This leads to increase in productivity of labor. Management can also introduce changes without facing resistance from the employees by properly communicating the need for change.
6. **Training and development-** In today's world, workers and executives have to be trained continuously to impart new knowledge and skills to them. The success of the training programme depends not only on its contents but also upon communication of this knowledge effectively.
7. **Facilitates control and co-ordination-** Control of resources and performance is needed to achieve the goals. Communication at all levels is needed to exercise control. Communication helps to create teamwork and it serves as a cementing force. It also helps in coordinating the activities of various departments and individuals.
8. **Builds bridge with external environment** - The external environment consists mainly of customers, suppliers, stockholders, govt., community and others that affect the success of the enterprise. An organization can function as an open system only by communicating with the environment. It must continuously strive to convince the people that they are acting in the interest of society.

In recent years, the significance of communication has increased due to the following reasons.

- a. Growing size and complexity of organization
- b. Social responsibilities of business
- c. Growth of trade unions
- d. Technological advancements
- e. Focus on human and public relations

PROCESS OF COMMUNICATION

Since communication involves the exchange of ideas and /or information between two persons, the presence of at least two persons (i.e, a sender and a receiver) is required. Following are the steps in communication process:

1. **Sender-** communication starts with the sender who is the initiator of the message. After generating an idea, the sender encodes it in a way that can be comprehended by the receiver.
2. **Encoding** refers to the process by which the sender translates his thoughts into a series of verbal and non-verbal actions that he feels will communicate the message to the intended receiver.
3. **Transmission-** The information that the sender wants to communicate is transmitted over a channel through which the message travels to the receiver. Channels for communication may include a computer, a telephone, a telegram or a television. The choice of a channel depends on the communication situation. For instance, when dealing with confidential information, direct face to face interaction or a sealed letter are more effective channels than a telephone conversation.

4. **Receiver-** The receiver is the person to whom the message is transmitted. In order to decode the message, the receiver has to be ready to receive the message. He should not be preoccupied with other thoughts that might cause him to pay insufficient attention to the message.
5. **Decoding-** refers to the process of translation of symbols encoded by the sender into ideas that can be understood. Communication is not complete unless it is understood by both the sender and the receiver.
6. **Feedback-** A message generated by the receiver in response to the sender's original message is known as feedback. Feedback is necessary to ensure that the message has been effectively encoded, transmitted, decoded and understood. It helps the sender evaluate the effectiveness of his message, so that he can modify his subsequent message.

CHANNELS OF COMMUNICATION

A communication channel is the route used by the sender to send his message to the receiver. Communication channels are of two types; 1) formal and 2) informal.

Formal communication- Every institution deliberately creates some official channels to facilitate flow of communication. When communication follows the routes formally laid down in the organization structure, it is called formal communication. Formal communication is generally in writing. Formal channels are associated with the position of the sender or the receiver.

ADVANTAGES-

1. The communication flows in an order and reaches the receiver smoothly.
2. Since the communication is in writing, a record can be kept of such communication.
3. It helps in exercising control over subordinates and in fixation of responsibility.
4. It is an essential element of the communication system of an organization and cannot be eliminated.

DISADVANTAGES-

1. Formal communication is slow and rigid. Since, it follows a fixed route, it delays the communication.
2. In complex and multilevel organizations this problem increases since organizational distance is more and screening is required at every stage.
3. It is irreversible. Once sent by the sender, it cannot be changed.

Informal communication (Grapevine) - Man is a social animal and therefore all employees are part of some informal social groups within the organization which are not bound by the formal relationships. Members of these informal groups interact and communicate with each other. This communication is known as grapevine. These persons have multiple social relationships and they pass on information and opinions to each other. A grapevine is structure less and information passes through it in all directions.

CHARACTERISTICS-

1. It is a natural activity arising out of the desire of the people to interact with each other
2. It satisfies the social needs of people
3. It is unofficial and spontaneous.
4. It is flexible and unstructured.
5. It operates at a fast speed.
6. Only a few persons are active communicators in it who become the informal leaders.
7. It is not authentic and can be distorted.
8. It operates like a chain as every person tells to many other persons.

ADVANTAGES

1. It helps in filling the gaps informal communication due to its personal nature.
2. Better relations among employees can be developed through grapevine.
3. Its speed is very fast because there is no barrier.
4. People in different departments and different positions can also interact.
5. Managers influence and use these channels for collecting information which cannot be obtained through formal channels.
6. Helps the manager in taking various HR decisions.

LIMITATIONS

1. Information gets distorted in mouth to mouth communication.
2. It gives rise to rumours.
3. Nobody can be held responsible for distorting the information.
4. Sometimes confidential information gets leaked and circulates through the grapevine.
5. It is not dependable for the manager
6. May affect the work environment and discipline of the organization because employees waste time in informal talks.
7. May increase animosities and conflicts in the organization when employees start playing politics at the workplace.

To sum up, grapevine is not bad rather it helps the manager to build committed teams of workers and motivate them grapevine cannot be eliminated. It depends upon the ability of the manager how he can use it positively for the benefit of the organization. A manager should always have the knowledge of the informal channels existing in the organization and the active informal leaders. He should obtain feedback information from these people and prevent rumors from spreading. Correct information should be transmitted in time so that rumour mongers can be countered.

TYPES OF COMMUNICATION

1. **Vertical-** Vertical communication flows in a hierarchy. It can be either downward or upward.
 - a) **Downward communication** – Communication flow from people at higher levels to those at lower levels in the organizational hierarchy is referred to as downward communication. Generally, authoritarian leaders predominantly use down ward communication. It is used to give orders and instructions to the subordinates and inform them about the policies of the organization. It involves the use of letters, handbooks, pamphlets, telephone, meeting, notices, memos etc. Obviously, the downward flow of information through organization levels is a time consuming process.
 - b) **Upward communication-** is an upward flow of information from subordinates to superiors, It originates from employees at the operational level and reaches to the top executive along the chain of command. Upward communication servers the following purposes.
 1. Measuring performance of employees through periodic performance reports.
 2. Obtaining feedback information from employees regarding the outcome of the policies of the organization.
 3. Exercising control after delegation of authority
 4. Providing outlet to employees to reduce their frustrations at work place
 5. Listening to employee complaints and suggestions

Upward communication can take place through reports, suggestion systems, grievance procedures, group meetings, open –door policy, the grapevine and exit interviews. This flow of communication is sometimes impeded by managers in the communication chain, who distort messages while communicating them to their bosses. This may arise due to fear of displeasing the boss or the desire to make a favourable impression. The responsibility for creating a free flow of upward communication rests to a great extent with superiors. In order to facilitate effective upward communication, the upper level of management must create an environment in which subordinates feel free to communicate.

2. **Horizontal communication-** implies exchanges of ideas among people working at the same level of authority. These people are of the same status and are at the same position. For example communication between two departmental heads or two zonal managers. This communication is faster and is helpful in coordinating the activities of different departments of the enterprise. It takes place through telephone emails letters, meetings, conferences etc.
3. **Diagonal or crosswise communication-** It means communication between persons who are neither in the same department nor at the same level of organization structure. It is the least used channel of communication in formal communication. It generally takes place when other channels are not possible. It is also used to save time. For example, it occurs when members of different departments form task teams or project groups or when staff members with advisory authority interact with line managers. This channel is mainly used in informal communication where there is no barrier of status or department. Cross wise communication may create difficulties, but it is a necessity in many enterprises in order to respond to the needs of the complex and dynamic organizational environment.

METHODS OF COMMUNICATION

There are three main methods of communication:-

1. **Oral communication-** A great deal of information is communicated orally. It can occur in a face to face meeting of two people or in a managers' presentation to a large audience. It can be formal or informal, planned or accidental. It can also be undertaken with the use of mechanical devices like telephone. Intercom, public address system etc.

MERITS-

1. **Clarity:** Direct contact between sender and receiver leaves no scope for ambiguity.
2. **Speed-** Oral communication leads to speedy exchange of information.
3. **Immediate feedback-** The receiver can reply immediately or he can ask questions and clarify points.
4. **Less cost-** Oral communication is less expensive both in terms of time and money.
5. **Flexible-** The communicator can adjust his language and tone according to the type of listener.
6. Further, he can see the reactions on the face of the listeners.
7. **Main method** of informal communication- People generally prefer to talk directly in informal relationships.

DEMERITS

1. **Time consuming-** Oral communication does not always save time. Some meetings show no results but a lot of time and money is spent on them.
2. **No record-** There is no formal record of oral communication. Therefore, it cannot be proved. It is not useful in communicating matters of record.
3. **Irreliability of mechanical devices-** when communication is done through telephone or other mechanical devices, there is a possibility of breakdown of the network or the voice may not be clearly heard. The recent instances of call drops in mobiles is an example.

4. **Misunderstanding-** When mutual distrust exists between the speaker and the listener oral communication may lead to increase of misunderstanding specially when the speaker is not able to express himself properly.
5. **Lengthy messages** cannot be communicated created through oral communication. In such cases, the listener loses interest after some time and forgets part of the message.
6. **Written communication-** is used by managers very frequently to give orders and instructions to subordinates. It can be in the form of circulars, manuals, handbooks, memos, letters etc.

MERITS

1. **Provides record-** Written communication can be used for future reference. It cannot be changed ,therefore, it can be preserved permanently.
2. **Detailed information-** Where the message is lengthy or details of information are to be provided, written communication is appropriate.
3. **Better understanding-** Since written messages are drafted carefully and the receiver gets sufficient time to read and understand them, they are understood well.
4. **Uniformity in policy and procedure-** The main policies, procedures and rules of the organization are generally kept in writing and communicated to successive managements and employees. This results in uniform policies over a period of time.
5. **Complementary to oral communication-** Sometimes the superior explains certain things orally and also complements it with written communication for better understanding.

DEMERITS

1. **Poor expression-** Written communication requires command over language and proper drafting of the message. If the writer does not possess these skills, then he will become ineffective.
2. **No immediate feedback from the receiver-** Consequently, it may take a long time to know whether a message has been received and properly understood or not.
3. **Cannot be changed-** If a wrong message has been sent or circulated, it cannot be changed; It is also difficult to withdraw it.
4. **Creates confusion-** If the message is poorly drafted, it may create misunderstanding which may lead to conflict.
5. **Time consuming-** Written communication takes a lot of time for preparation and transmission. Sometimes, they tend to become costly because of the paper work involved.

Most of the demerits of written communication are now removed due to the modern technological innovations. The communicator has different options available for written communication. He can use the SMS facility for short messages, chat or send messages, pictures or videos on what's app, and e-mail at any hour of the day. The reply is also generally very fast. People now prefer to use written communication instead of directly talking to each other. It has become a popular mode of informal communication.

GESTURAL COMMUNICATION OR NON-VERBAL COMMUNICATION

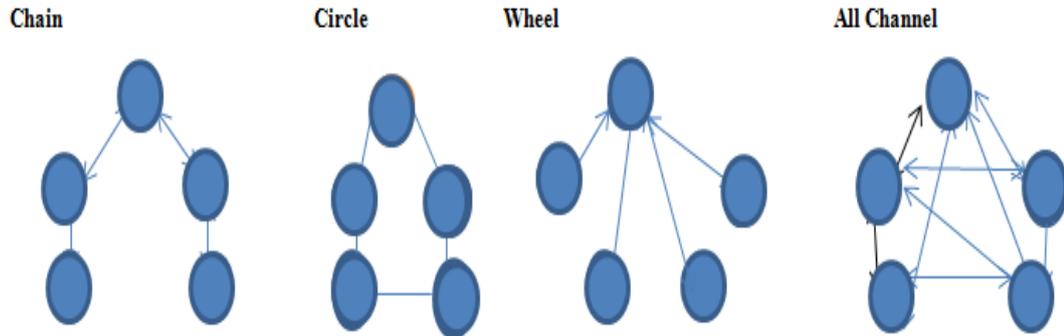
Gestures or body language is often used to communicate feelings and emotions. It includes the facial expressions and the posture. Non-verbal communication is expected to support the verbal. For example if the manager wants to praise the performance of an employee, he may pat his back. It is correct to say that actions speak louder than words.

Non-verbal communication is very important in both organizational and non-organizational settings. Look at how dumbos communicate without using a single word or how a manager emphasizes a particular point by moving his hands. Non-verbal communication can take the form of body movements, and the physical distance

between the sender and the receiver of the message. Looking into the role of non-verbal communication, a new academic study of body movements, known as **Kinetics** has been developed.

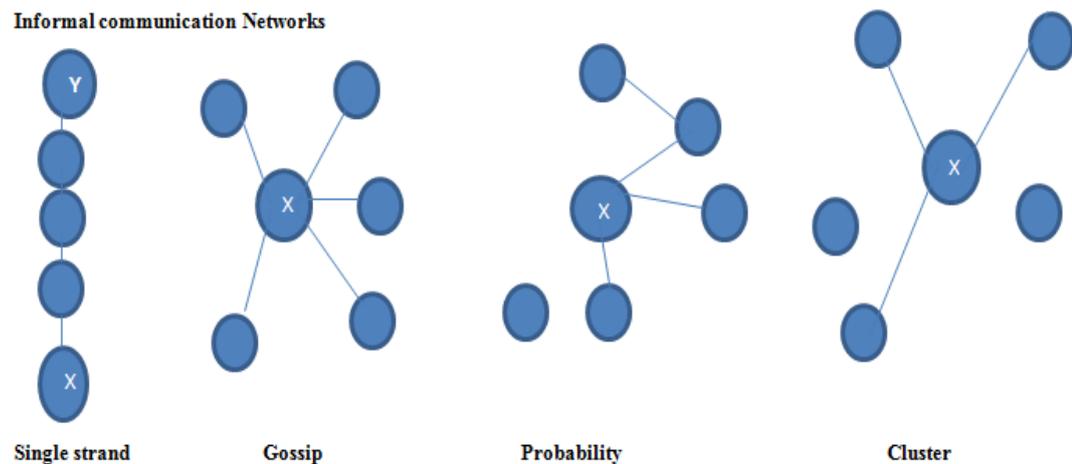
COMMUNICATION NETWORKS

The vertical and horizontal flows of organizational communication can be combined into a variety of patterns called communication networks. Following exhibit illustrates the common communication networks.



In a chain network, communication flows according to the formal chain of command both downward and upward in circle network each person can communicate with two others located on both of his sides. Such network provides wider choice of channels and offers greater satisfaction to employees. But it is very slow, noisy and unorganized. The wheel network represents communication flowing between a clearly identifiable and strong leader and others in a work group or team. The leader serves as the center through whom all communication passes. Finally, in the all channel network, communication flows freely among all members of a work team.

INFORMAL COMMUNICATION NETWORKS



There are four types of informal communication. In a single strand network an individual communicates with another individual through the intervening persons. In the gossip network, the individual communicates with every one non-selectively. In probability network, the individual communicates randomly with others according to the law of probability. In the cluster network, the individual communicates with only those individuals whom he trusts. Out of these informal networks the cluster is the most popular.

BARRIERS TO COMMUNICATION

One of the most important problems faced by managers is the breakdown in communication due to the presence of communication barriers. Messages sent from one person to another are rarely received exactly as intended. Some of the factors that impede effective communication are mentioned below.

1. Semantic Barriers- are obstructions caused during the process of encoding and decoding ideas and words, these barriers arise from the linguistic capacity of the parties involved. There can be following semantic barriers.

- i. **Lack of planning-** Good communication seldom happens by chance. Too often, people start talking and writing without first thinking planning and stating the purpose of the message.
- ii. **Badly expressed Messages-** Even if the sender is clear about the message he wants to convey, the message may not be conveyed clearly. Poorly chosen words, careless omissions, lack of coherence, poor organization of ideas, awkward sentence structure, inadequate vocabulary and the failure to clarify implications are some of the common reasons for the poor transmission of messages.
- iii. **Faulty translations-** Sometimes, when a message is translated from one language to another mistakes are committed. Approximate understanding of words and the consequent faulty translations lead to heavy costs.
- iv. **Specialists language-** It is often found that specialists communicate in technical language which may not be understood by everyone.

2. Psychological Barriers- The meaning ascribed to a message depends upon the emotional status of both the parties involved. Sometimes, the receiver may not be at the same wavelength as that of the sender. Following are some emotional barriers,

- i. **Premature Evaluation-** is the tendency of prematurely evaluating communications. Many people do not listen to the whole message but presume the latter part after listening or reading only beginning. They evaluate it on the basis of incomplete communication.
- ii. **Inattention-** The preoccupied mind of a receiver and the resultant non-listening is one of major psychological barriers.
- iii. **Loss by transmission and poor retention-** When communication passes through various levels in the organization, successive transmission of the same message are decreasingly accurate. This happens due to poor retention of the information in oral communication.
- iv. **Distrust of communicator-** It arises out of ill-considered judgments or illogical decisions of the communicator due to which people lose trust in him. Repeated experience of this kind gradually conditions the receiver to delay action.

3. ORGANIZATIONAL BARRIERS

- i. **Organizational policy** rules and regulations-The general organizational policy whether in writing or interpreted from the behavior of organization members, acts as a guideline to everyone in the organization. If this policy is not supportive to the flow of communication, the flow would not be smooth. Similarly, rigid rules and regulations regarding subject matter to be communicated and also the channel of communication may restrict the flow of certain messages.
- ii. **Status differences-** Superior subordinate relationships in the formal organization structure also blocks the flow of communication and more particularly in upward direction.
- iii. **Complexity in organization structure-** In an organization where there are a number of managerial levels, communication gets delayed and distorted and the number of filtering points are more.
- iv. **Organizational facilities-** If the organization does not provide facilities for smooth and timely flow of communication people may fail to make effective communication.

4. BARRIERS IN SUPERIORS

- i. **Attitude of Superiors-** The unfavorable attitude of superiors towards communication can affect the flow of messages in different directions.
- ii. **Fear of challenge of authority-** Manager may try to withhold the information coming down the line or going up as frequent passing of information may disclose their weakness.
- iii. **Lack of confidence in subordinates-** Superiors generally believe that their subordinates are less competent and capable which leads to lesser communication with the subordinates.
- iv. **Ignoring communication-** Sometimes superiors deliberately ignore the communication from their subordinates to maintain their importance. This works against the willingness of subordinates to communicate.
- v. **Lack of time-** Superiors feel that they are overburdened with work and they have little time to talk to their subordinates.

5. BARRIERS IN SUBORDINATES

- i. **Unwillingness to communicate-** Sometimes subordinates are not willing to communicate upwards an information which can adversely affect their own personal interests. They try to hide or modify any unfavorable information.
- ii. **Lack of proper incentive-** Upward communication may be restricted due to lack of motivation. No reward or attention may be given to novel ideas and suggestions.

6. OTHER BARRIERS-

- i. **Information overload-** Unrestricted flow of information may result in information overload. This may lead to ignoring certain information making errors in processing it, delaying the processing, filtering it, or simply escaping from the task of communication.
- ii. **Barrier in oral communication-** Noise is a major problem in oral communication. The voices of the communicators may not be heard properly if there is too much noise. Mechanical barriers also lead to improper communication like faulty telephone connection or call drops and net work problems in mobiles.

OVERCOMING BARRIERS TO COMMUNICATION

The following guidelines can help overcome the barriers to communication.

1. **Clarify the purpose of the message-** Senders must clarify in their minds what they want to communicate and make a plan to achieve it.
2. **Use intelligible encoding-** Effective communication required that encoding and decoding be done with symbols that are familiar to both the sender and the receiver, thus the manager should avoid unnecessary technical jargon or complex language.
3. **Interpersonal Trust-** A subordinate will not be able to communicate freely with his manager unless he trusts the latter. By being fair, open and receptive to new ideas, top managers can create a favorable atmosphere for developing interpersonal trust.
4. **Listen Actively-** Unlike hearing, active listening which is listening for full meaning without making premature judgments or interpretations, demands total concentration. Active listening is enhanced by developing empathy with the sender- that is, by placing yourself in the sender's position. The goal is to improve your ability to receive the full meaning of communication. Davis has suggested ten points which may be observed in listening. These are: stop talking put the talker at ease, show the talker that you want to listen to, remove distractions, emphasize with the talker, be patient, hold your temper, go easy on arguments and criticism, ask questions, stop talking.

5. **Proper feedback-** Communication is complete only when the message is understood by the receiver and the sender never knows whether or not the message is understood unless he or she gets feedback. This is accomplished by asking questions, requesting a reply to a letter, and encouraging receivers to give their reactions to the message.
6. **Watch non-verbal cues-** If actions speak louder than words, then it's important to watch your actions to make sure they align with and reinforce the words that go along with them. The effective communicator watches his or her non-verbal cues to ensure that they convey the desired message.
7. **Use of grapevine-** A manager must know the informal channels existing in the organization and must be able to use them to supplement the formal communication system.
8. **Proper communication media-** A proper medium which fits the message contributes to its effectiveness. In general more emotional, sensitive and negative topics are better communicated face to face,

IT REVOLUTION AND MANAGERIAL COMMUNICATION

The world of managerial communication is not what it used to be 20 years back. Information ictchnology has radically changed the way organizational members communicate. Two developments in IT seem to be having the most significant impact on current managerial communication.

1. **Networked computer systems-** In this system, an organizational links its computers together through compatible hardware and software, creating an organizational network. Organizational members can then communicate with each other and tap into information wherever they are. Some of the applications of this system are.
 - a) **E-mail-** is the instantaneous transmission of written messages on computers. Messages wait at the receiver's computer and are read at the receiver's convenience. E-mail is fast and cheap and can be used to send the same message to numerous people at the same time.
 - b) **Instant messaging (IM) -** This is interactive real- time communication that takes place among computer users who are logged on to the computer net- work at the same time.
 - c) **Voice-mail-** system digitizes a spoken message, transmits it over the network, and stores it on disk for the receiver to retrieve later. Receiver can choose to save the message for future use, debate it, or route it to other parties.
 - d) **Fax machines-** allow the transmission of documents containing both text and graphics over ordinary telephone lines. Information that is best viewed in printed form can be easily and quickly shared by organizational members.
 - e) **Electronic data interchange-** is a way for organization to exchange standard business transaction documents , such as invoices or purchase orders, using direct computer to computer networks, organizations often use EDI with vendors, suppliers and customers because it saves time and money.
 - f) **Teleconferencing-** allows a group of people to confer simultaneously using telephone or e-mail group communications software. If meeting participants can see each other over video screens, the simultaneous conference is called Video conferencing work groups, large and small, which might be in different locations, can use these tools to collaborate and share information.
 - g) **Intranets and extranets-** An intranet is an organizational communication network that uses internet technology and is accessible only by organizational employees. An extranet is an organizational communication network that uses internet technology and allows authorized users inside the organization to communicate with certain outsiders such as customers or vendors.
 - h) **Internet-** has had a tremendous impact on organizations. It can be used to communicate text, colorful graphics, music, videos clips and voice communication.

2. **Wireless capabilities-** Wireless communication depends on signals sent through air or space without any physical connection using things such as microwave signals, satellites, radio waves and radio antennas or infrared light rays. Wireless smart phones, notebook computers, and other pocket communication devices have spawned a whole new way for managers to “Keep in touch”.

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TATA CASE STUDY: CORPORATE SOCIAL RESPONSIBILITY OF TATA GROUP

**Priyanka Kamboj*

**Assistant Professor, Chandigarh Group of Colleges Landran, Mohali*

ABSTRACT

From the ancient times of barter system to modern times of digital and plastic money, mankind has achieved the very impossible. The prime objective of business organizations has been “profitability” which motivated the development. But as the development continued so does the competition, this thinning layer of fierce competition took heavy tolls. It affected the social welfare thus putting threat to the co-existence of community and business organizations. The profit-motive organizations have now realized that for rising above and survival they have to return to the society. Thus, the concept of CSR (Corporate Social Responsibility) evolved. The motive of Tata Groups has always been to upgrade the quality of life that means giving back to the community. The aim of this research paper is to understand the concept of CSR, its working, scope while taking into consideration the case study of TATA Groups of how they have worked for the upliftment of community and environment protection while contributing in the progress of nation.

Keywords: Corporate social responsibility Tata Groups employee welfare society productivity profitability stakeholders’ community environment performance social development

INTRODUCTION

Tata Group was founded in 1868 by Jamsetji Nusserwanji Tata as private firm. In the year 1902 under the leadership of Sir Dorab Tata, the Tata group diversified array of new industries ventured like steel, electricity, consumer goods, education and aviation. Further it expanded under Jehangir Ratanji Dadabhooy Tata into chemicals, cosmetics, technology marketing, engineering, manufacturing, software services and tea. Software services earned international recognition to Tata Group. Ratan Tata took over the chairmanship in 1991; he focused on globalizing the business. In year 2008, Tata ventured in the automotive industry. It launched Nano in same year commonly known as “people’s car”, a five seater car, affordable, secure and a vehicle with all weather form. It is a global enterprise with headquarters in India and running over 100 independent companies in approximately six continents. Talking about the market capitalization of Tata Group, it has been valued over 7.5 trillion rupees.

Tata groups have various communities which serve the nation and regard the welfare of society and environment protection. It has various initiatives through which they motivate the communities to work in partnership with the stakeholders, government etc. The major role is played by the employees who are encouraged to do so. Tata Group works on the principle of sustainable development, which means catering one’s need without compromising with the needs of future generations.



(Figure: 1, source: www.tata.com)

The mission of Tata group has been to give it back to the society, the community which has contributed to organizations to grow and flourish. They do so by focusing on the key areas which includes:

- Social initiatives: The major focus of this area is skill development, health, education and promotion of livelihoods which are more sustainable. They aim to build the rightful capability in order to achieve in competitive world along with empowering people from the weaker sections to acquire development based on skill and other opportunities for promoting their livelihood. They tend to promote the disadvantaged rural economy by generating employment. This objective is fulfilled by launching various initiatives such as “Udaan” to unleash the desire to succeed.
- Environment initiatives: The thrust areas are water conservation, biodiversity and energy efficiency. Tata group aims to progress through empowering girl education, with the support of NGO’s, Titan supports more than 58 centers which consist of over 2000 girls. TCS too encourages through computer based learning, it has trained more than 51000 youth through its programme.
- Group CSR projects: This area focuses on Tata strive and Tata engage. It works on holistic approach of development. As said by the group community service is inseparable to the organization. They take initiatives to unite employees and the present retired employees to enrich the community by bestowing the expertise and values of their own.
- Disaster Response: The countries of the disaster response are India and Nepal. Tata groups provide resources in the need of hour to extend the help to those who are worse affected by the disasters. They have provided relief in below mentioned disasters:

Uttarakhand (2013) –Tata groups provided the locals with huge relief by supporting them with long-term rehabilitation scheme, medical assistance, blankets and various other utilities.

Jammu Kashmir (2014) – They attended to the flood situation in J&K by providing very low cost solutions of housing to the natives.

Cyclone hudbud (2014) - They were able to resolve the power crisis and provided employment to more than 10000 employees in its organization.

Nepal earthquake relief (2015) - They provided help through medical camps, counseling sessions, other provisions such as tents, medical kits etc.

Few principles of Tata groups are as follows:

- To follow the soaring standards of authority and transparency
- Working on sustainable development by reducing the risk and focusing on creating value and increasing the opportunities.
- Principles to guide and improve the health, education, safety, environment.
- Deliberate effort to encourage employees by providing them with sanitized, safe, vigorous and fair conditions.
- To provide freedom to step forward and work for the betterment of society.

RESEARCH OBJECTIVES

To know CSR of Tata Groups

To study framework of CSR in India and governing policies

To examine different activities of Tata groups in relation to CSR

To understand the scope of CSR

RESEARCH METHODOLOGY

The research methodology adopted in this research is exploratory in nature; its major aim is to explore the concept of CSR and the contribution of TATA Groups in this initiative. This case study is based on review of literature; truly secondary data is used for this purpose. This paper focuses on enlightening the readers with the theory of co-existence of profit making organizations and social welfare organizations.

LITERATURE REVIEW

The concept CSR first came into existence in the year 1950's in USA and it was more commonly used in 1970's.

Frederick (1960) elaborated in his research paper that being social responsible means business should take care of people's expectations along with economic activities of the business. Both CSR and profit earning motive should co-exist as to survive in the long run.

Peter Utting (2005) noted that expanding number of international organizations and domestic companies are supporting and adopting the CSR initiatives which follows the triple bottom approach that means their focus is on employees welfare, social welfare, environment protection, community development and lending support to NGO's.

Mishra (2013) in the research paper "A study of corporate social responsibility in Indian organizations: introspection" stated that CSR is the vital part of Indian economy, an economy which is growing rapidly. The focus was prior on profitability which duly shifted to social welfare. A country where consumer is considered god, the welfare by providing good quality and quantity has to be must. CSR would not only serve monetary but social benefit as well.

TYPES OF SOCIAL RESPONSIBILITY

- **Environmental responsibility:** The environmental responsibility stated that business along with the other activities is responsible to take necessary care of the environment. Reducing air pollution, greenhouse gases, noise pollution etc should be priority of such institutions. There should be sustainable use of resources and emphasis on decreasing activities that pose threat to the environment.
- **Economic responsibility:** The economic responsibility of the business organizations includes earning profits for the firm, increasing value of stake holders, catering the preferences and demands of the customers.
- **Human responsibility:** The human responsibility initiatives focus on the rights of workers and fair treatment like getting equal pay for equal work, proper incentives, working environment, and motivation, clean and safe environment to work.
- **Community responsibility:** This simply means to uplift the community through funding programs such as educational, health support, child services and supporting various other community projects.

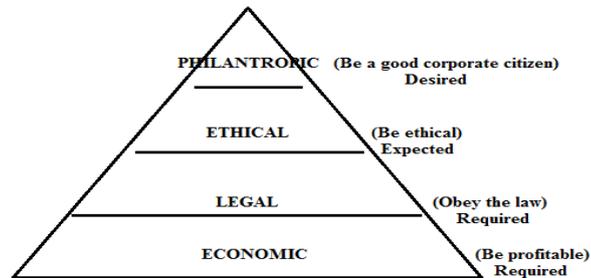
MODELS OF CORPORATE SOCIAL RESPONSIBILITY

Carroll's model: According to this model of social responsibility there are four areas of CSR, enlisted as - ethical, philanthropic, economic and legal. These are elaborated as below

- **Ethical:** Being ethical means doing the rightful thing and avoid bad and harm. Though it is not an obligation for the companies. People would be attracted to purchase good and service without any hesitation from the companies which are ethical and just.
- **Legal:** The model explains that it is the duty of business organization to follow and obey laws. The laws like labor laws, tax regulations, safety of workers and employees, which if let unfulfilled would be bad.

- Philanthropic: The top place in the model is held by philanthropic which means giving back to the people. The resources of environment should be used efficiently, measures to reduce pollution. This is the major part which holds the virtue. It should not be taken lightly.
- Economic: This is the last level of the model which represents business institutions first responsibility which is profitability, without which a company cannot survive for much long. Companies have day to day expenses for which they needs profits like paying salaries, production activities etc.

Carroll's (1991) Pyramid of Corporate Social Responsibility



(Figure: 2, source: A. B. Carroll-July–August 1991)

Halal's model of CSR: This model states that the areas of interest are different among groups. They can be unified up to a point which will work in favor of shareholders and employees and will benefit them. Though there is a lack of coordination between economic and ethical interests of the business organizations and it is difficult to cope up with them.

Ackerman's model: This model has been explained through three phases:

- A social problem is recognized by the top management
- After the problem is recognized, employees and staff are hired so as to study, critical analysis and suggest suitable ways to overcome.
- Implementing those measures and strategies.

SOCIETIES OF TATA GROUPS-CSR APPROACH

- **TATA STEEL:** TATA Steel is with the belief that the health and the welfare of their employees, workers, of community as well as society hold intrinsic value to them. The aim is to thrive and foster sustainable communities and societies. It has various thrust areas which it tends to improve and serve the society:
 - ✚ Economic up liftment and empowerment: It facilitates the tribal villages by uplifting them from poverty by providing necessary skill, training and employment.
 - ✚ Sports and Infrastructure
 - ✚ Supports welfare organizations such as:
 - Tata steel foundation for family initiatives
 - National association for the blind
 - Shishu nicketan school of hope
 - Tata steel rural development society
 - ✚ Health care works: It facilitates child care, child education, raising awareness for HIV Aids. It focuses on plantation activities as well as immunization.
 - ✚ Land management and Water management

- **TATA MOTORS: The objectives of TATA motors in regard to CSR is :**
 - ✚ Generating the employment: Tata motors works on the idea of making people financially independent by providing variety of jobs.
 - ✚ Controlling pollution: Planting more trees and conservation of lakes, rivers.
 - ✚ Human capital: TATA motors launched scholarship program for students to have access to education and other supplies like notebooks, materials etc.
 - ✚ Economic capital: Two societies were found in Lucknow, named “Jan Parivar Kalyan Santhan and Samaj Vikas Kendra” to promote healthcare.
- **TATA CHEMICALS:** TATA chemicals support the idea of sustainability, protecting environment, promoting transparency, generating value and social capital. It supports optimum utilization of resources to promote sustainability.
- **TATA TEA:** Shristi welfare centre was set up in Munnar, Kerala to aid specially-abled persons. It focuses on education, special training and children rehabilitation. Some of the projects are as follows:
 - ✚ Athulya: It provides assistance to people by work like paper making and stationery making the two units of athulya.
 - ✚ Aranya: It revived the vibe of ancient work of dye and provided employment to those who are disabled.
 - ✚ Dare strawberry: It works on the preservation of strawberries which in turn provides employment to people.
 - ✚ Dare school: Provides self help, training to students and various other skills to earn their living.

Example: **Jaggo re!**-a wakeup call for customers against black marketing.

- **TITAN:** The objectives of Titan are stated below
 - ✚ To support communities which are local.
 - ✚ Caring for employees
 - ✚ Promoting sustainable development
 - ✚ Safe work environment
- **TISCO:** They have been awarded for the work done for sustainable development and social responsibility in the year 2002-03. Their work on human rights, environment and protection of human capital is commendable. They bagged another award in 2003 for spreading awareness of HIV/AIDS.
- **TELCO:** The major work of TELCO is to :
 - ✚ To promote hygiene and mutual relations among the family members.
 - ✚ To develop upgraded standards of living through education and skill development.
- **TATA CONSULTANCY SERVICES:** It aims at promoting transparency, honesty, fairness in companies and working on community development. It promotes adult education by launching various literacy programmes.
- **TATA ARCHERY ACADEMY:** It provides archery training the students to prepare them for championships.
- **TQMS:** TATA quality management services institutionalize TBEM whose objective is to improve performance and efficiency. It focuses to attain productivity.

- **TCSR**: It focuses to improve standard of living of the people, achieve sustainable development. It assists people of the rural areas so as to make them self-sufficient.
 - Following are the initiatives:
 - ✚ Education
 - ✚ Rural energy
 - ✚ Animal husbandry
 - ✚ Women programs
 - ✚ Agricultural development
 - **TATA RELIEF COMMITTEE**: It works for the upliftment of disaster struck places by
 - ✚ By providing relief measures
 - ✚ By undertaking rehabilitation programmes
 - **TCCI**: The mission of TCCI- To work together for the promotion of communities at large. It focuses on giving direction and enhancement to social work for the up gradation of community

CONTRIBUTION OF TATA CORPORATE SOCIAL RESPONSIBILITY AT GLANCE

Corporate social responsibility means that the companies be accountable towards its stakeholders like: employees, suppliers, investors, customers and public. It is management concept where companies integrate the social and environmental responsibilities through the operations and interactions of their business. It simply means giving back to the community.

- Tata group is one of the country's substantial private employer with more than 2, 00,000 employees in their companies.
- In the Tata group over 2/3rd equity rights of the parent firm i.e. Tata sons ltd. Is held by charitable trusts favored by Sir Dorab Tata and Ratan Tata.
- By way of these trusts, Tata groups contributed an average of 9 to 15% of the net profit each year.
- The mission of Tata groups talks about upgrading the quality life of the communities through creation of stakeholder value on the basis of leadership with trust.
- Major focus of the group is on rural development, improving infrastructure of education sector, healthcare etc.



(Figure-3, source: www.tata.com)

- It implies on giving a livelihood instead of sheer income in form of money.
- Tata runs a programme named “Adult literacy programme” in the year 2000 through which it provides employment to more than 165 disabled people in an unskilled job.
- TCE (Tata Chemicals Limited) which is the parent company and is owned by charitable trust by around 65 percent. In this company every employee has the right to choose whether they are willing to spend a day each year, a paid day by TCE offering services in local charities.
- TCE works on the promotion of healthcare, local heritage and its spirits through working closely with the regional authorities and schools.
- The company works in accordance with **the triple bottom line** strategy approach in consideration with people, planet and profit.
- It aims on reducing the pessimistic impacts of the trading activities and focuses on environment - friendly working.
- They work with the objective to reduce the discrimination against females and girl child and raise awareness microfinance, water harvesting and its conservation.
- With the partnership of NGO’s and TCS safe and pure drinking water facility is made available to the rural areas in Maharashtra.

TISCO was awarded with Global Business Coalition Award in 2003 for its achievement for spreading of HIV/AIDS.

CONCLUSION

Tata Groups works with the positive approach regarding the up gradation of the society through actively running trusts which priorities people over profits. The major part of CSR is employee motivation and its satisfaction which is being duly achieved by the organization. Tata group has been always committed to integrate environmental, ethical, cultural and social principles in its business.

This process is an ever evolving and has no end. It is a course of action through which it can contribute to the society, earn goodwill and help co-exist the economic and social motive of the business. This co-existence is of utmost virtue. The guiding approach of TATA group states that what is earned from the community must be paid back to them through serving in the rightful manner.

FINDINGS AND SCOPE

- CSR is an integral part of any business organization, to exist in the long run it must take care of the community
- It is responsibility of the organizations to serve the society by proper utilization of resources.
- It will help the organizations to generate goodwill and build a positive image in the eyes of society , thus attracting them to buy their goods and services
- It helps to promote harmonious relation between community and the business organizations, thus benefiting each one of them.
- NGO’s are being encouraged to work along to upgrade the basic necessities and uplifting the society.

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AVIATION INDUSTRY IN INDIA- AN OVERVIEW

Navdeep Kaur **Rajiv Khosla *Harjeet Kaur*

**Research Scholar, School of Management Studies, Punjabi University, Patiala*

***Associate. Professor, DAV College, Sec-10, Chandigarh*

****Assistant Professor, Mata Gujri College, Fatehgarh Sahib*

ABSTRACT

Aviation Industry plays a vital role in the economic growth of India. It not only provides the fastest means of transportation across the world but also promotes international trade. India has become the leader of the global aviation industry which contributes approximate US\$30 billion annually to the country's GDP. India became the third-largest domestic market after US and China. The journey of India in the aviation sector started in 1912-1913 when the first domestic route was started between Delhi and Karachi. At the time of independence total of nine airlines were into the operation either in cargo or passengers. The First Indian airline was Air India which was founded in 1932 and was headed by a visionary man J.R.D. Tata. After independence aviation industry was government-owned. Till 2012, the aviation sector of India contributed a 0.5 per cent share in the total GDP of the country. It also provides 1.7 million jobs to the youth. After economic reforms, many private players came into the market and opened up the economy to foreign traders. The industry has to suffer a big loss in 2008 when all the big economics were also in the clutches of recession. The industry has to face big challenges like higher oil prices, higher debt burden, limited pricing power, the safety of workers and declining income.

INTRODUCTION

Indian civil aviation is the 9th largest Aviation market in the world and is expected to become 3rd largest by 2020 and largest by 2030. In FY20, air passenger traffic stood at 341.05 million and the contribution of travel and tourism to India's GDP increased to US\$ 247.30 billion in 2018 from US\$ 234.03 billion in 2017. Whereas, the contribution is forecast to reach US\$ 492.21 billion by 2028F. As per IBEF Business and leisure travel will boost growth and spending on business travel increased to US\$ 234.44 billion in 2018 from US\$ 201.71 billion in 2017, while that on leisure travel increased to US\$ 12.86 billion in 2018 from US\$ 11.61 billion in 2017. The expenditure of Indian travellers is expected to touch Rs 9.5 lakh crore (US\$ 136 billion) by 2021.

THE INDIAN AVIATION SECTOR CAN BROADLY BE DIVIDED INTO THREE MAIN SECTIONS:

1. **Scheduled air transport service**, that is, an air transport service engaged between two or more places and operated accordingly. It includes domestic airlines, which provide scheduled flights within India and to selected international destinations.
2. **Non-scheduled air transport service**, which, other than the scheduled ones and on charter basis or non-scheduled basis. The operator is not permitted to publish time schedule and issue tickets to passengers.
3. **Air cargo services**, which deals with cargo and mail. It may be on scheduled or non-scheduled basis. These operations are permitted to operate anywhere within India.

MAJOR AIRLINES PLAYERS IN INDIA

Vistara: The newest addition to the Indian domestic market, **Vistara** is a joint venture between Tata Sons and Singapore Airlines. Vistara is quickly becoming popular for its affordable travel rates coupled with premium hospitality. The name 'Vistara' is symbolic of its vision of infinite expansion and the desire of the airline to become the Best Airline in India to the people.

Indigo: As of June 2018, **Indigo** commands a substantial 42% share of the Indian Aviation market. It has the largest fleet size in India and consequently can transport the largest number of passengers each year. Indigo also ranked first in the list of best airlines in India. Frequent flyers regularly choose Indigo for the cheapest flight

fares, and deals offered year-round.

Air India: Despite its recent struggles, **Air India** continues to be one of the most sought-after airline by the people of India for domestic as well as international travel. It offers some of the cheapest fares while also providing the most luggage capacity (25 kg for the economy class) among all the airlines which is highly appreciated by flyers. Air India's solid belief in offering the warmest of hospitalities is symbolized by their mascot, 'The Maharajah' and makes it one of the Best Airlines in India.

SpiceJet: **SpiceJet** headquartered in Gurgaon, India is a popular low-cost airline in India. In terms of the number of domestic passengers carried each year, it is ranked fourth in the country. 312 daily flights are in operation under SpiceJet across 55 destinations; 48 of which are national while 7 are international. The premium services of this airline are offered under the banner of SpiceMax. These premium services include complimentary meals, priority check-in and boarding, extra legroom, etc.

GoAir: Go Airlines India Pvt. Ltd is the aviation venture of the Wadia Group. The airline operates its services under the brand GoAir. GoAir launched its operations in November 2005. GoAir is a low-fare carrier launched with the objective of commoditizing air travel, offers airline seats at marginal premium to train fares across India.

THE PLAYERS TODAY

Indigo is by far the largest airline in India today with a commanding 50%+ market share. This number is also a constraint for them, however, as growing to 60% or 70% is not realistic. Their growth will be a function of the country's growth, which is sizable on its own. The other half of the Indian market includes SpiceJet, Air India, Go First, Vistara, and Air India. These carriers run a diverse set of business models, with Air India being the most legacy of the group and having the most international long-haul service. Vistara is a higher-end, business-focused airline, and that brings into question its viability in a world where this traffic is uncertain to return fully. SpiceJet complicated its business model when Jet Airways shuttered, taking on planes with business class cabins. SpiceJet then, overnight, became a business class airline. Go First has declared a strategy to become India's first true ultra-low-cost carrier, modelling themselves after airlines like Ryanair in Europe and Spirit in the United States. Air Asia India was shrinking before the pandemic, and their commitment to the country is far from certain. As the pandemic has pressured all airlines, this brings into question the ongoing issue of an Air India sale by the government, and survivability for the other carriers in this group.

MARKET SIZE

India is expected to overtake China and the United States as the world's third-largest air passenger market in the next ten years, by 2030, according to the International Air Transport Association (IATA).

India's passenger* traffic stood at 115.37 million in FY21. Domestic passenger and international passenger traffic declined at a CAGR of -9.02% and -28.64%, respectively, from FY16 to FY21, owing to COVID-19-related restrictions on flights in FY21. In FY21, airports in India pegged the domestic passenger traffic to be ~105.2 million, a 61.7% YoY decline, and international passenger traffic to be ~10.1 million, an 84.8% YoY decline, over the fiscal year ended March 31, 2020. In October 2021, the average daily domestic passenger flight departures stood at >2,300, with average daily domestic traffic being >283,000 air passengers.

Between FY16 and FY21, freight traffic declined at a CAGR of -1.77% from 2.70 million tonnes (MT) to 2.47 MT. Freight traffic on airports in India has the potential to reach 17 MT by FY40.

Aircraft movement declined at a CAGR of -7.79% from 1.60 million in FY16 to 1.20 million in FY21. From FY16 to FY21, domestic aircraft movement decreased at a CAGR of -6.44% and international aircraft movement declined at a CAGR of -18.52%. India's domestic and international aircraft movements reached 1,062 thousand and 135 thousand, respectively, in FY21. The expenditure of Indian travellers is expected to grow to Rs. 9.5 lakh crore (US\$ 136 billion) by 2021.

To cater to the rising air traffic, the Government of India has been working towards increasing the number of airports. As of 2020, India had 153 operational airports. India has envisaged increasing the number of operational airports to 190-200 by FY40.

Further, the rising demand in the sector has pushed the number of airplanes operating in the sector. The number of airplanes is expected to reach 1,100 planes by 2027.

KEY INVESTMENTS AND DEVELOPMENTS IN INDIA'S AVIATION INDUSTRY INCLUDE:

1. In October 2021, Tata Sons won the bid to acquire state-run Air India by offering Rs. 18,000 crore (US\$ 2.4 billion) to acquire 100% shares.
2. In October 2021, Akasa Air, a start-up airline, received a 'No Objection' certificate from the Ministry of Civil Aviation to launch operations. The start-up plans to commence its operations from mid-2022.
3. In September 2021, JetSetGo, a private aviation company, plans to make its flight operations carbon neutral by 2024 through a carbon management programme.
4. In August 2021, Indira Gandhi International Airport was declared the best airport in India and Central Asia at Skytrax World Airport Awards.
5. In June 2021, SpiceJet announced its ambitious target to fly 100 million domestic passengers on Sustainable Aviation Fuel (SAF) blend by 2030 under the aegis of World Economic Forum (WEF).
6. In April 2021, Boeing, an aircraft manufacturer, announced that it has partnered with the Indian Aviation Academy (IAA) and the University of Southern California (USC) to conduct safety management system training sessions for all stakeholders in the domestic aviation industry.
7. In March 2021, the Indira Gandhi International (IGI) Airport in Delhi announced a key expansion project to increase its passenger handling capacity. The expansion project includes a new terminal, advanced facilities, an additional runway and improved capacity to handle more passengers.
8. In March 2021, the government announced plan to set up two water aerodromes in Assam and four water aerodromes in Andaman & Nicobar Islands this year to boost tourism and connectivity.
9. In March 2021, the government submitted a proposal to develop a water aerodrome project at the Ujjani Dam, under the Ministry of Civil Aviation's UDAN-RCS (regional connectivity scheme).
10. On March 25, 2021, Union Minister of Civil Aviation Hardeep Singh Puri inaugurated the Kurnool Airport, Orvakal, Andhra Pradesh, in a virtual ceremony. The flight operations at Kurnool airport will commence on March 28, 2021 under the Regional Connectivity Scheme – Ude Desh Ka Aam Nagrik (RCS-UDAN).
11. On February 25, 2021, the Airports Authority of India (AAI) issued tenders for construction of the first phase of an international airport at Dholera in Gujarat, entailing an investment of Rs. 987 crore (US\$ 135.07 million). The new facility is being set up in greenfield city under the Delhi–Mumbai Industrial Corridor (DMIC) project at Dholera.
12. On January 19, 2021, the Airport Authority of India (AAI) signed a concession agreement with Adani Group for three airports—Jaipur, Guwahati and Thiruvananthapuram. The concession period is 50 years from the date of commercial operations.
13. AAI plans to invest Rs. 25,000 crore (US\$ 3.58 billion) in next the five years to augment facilities and infrastructure at airports.
14. UK group to invest Rs. 950 crore (US\$ 135.9 million) in Turbo Aviation's new airline TruStar.

GOVERNMENT INITIATIVES

Some major initiatives undertaken by the Government are:

1. The Ministry of Civil Aviation (MoCA) announced that airlines can operate domestic flights without any capacity restriction, effective from October 18, 2021.

2. In October 2021, the Union Minister of Civil Aviation, Mr. Jyotiraditya M. Scindia, virtually flagged off the first direct flight along the Shillong–Dibrugarh route, under the RCS-UDAN (Regional Connectivity Scheme - Ude Desh Ka Aam Naagrik) scheme.
3. Ministry of Civil Aviation launched the Krishi UDAN 2.0 scheme in October 2021. The scheme proposes assistance and incentive for movement of agri-produce by air transportation. The Krishi UDAN 2.0 will be implemented at 53 airports across the country, largely focusing on Northeast and tribal regions, and is expected to benefit farmers, freight forwarders and airlines.
4. On October 20, 2021, Prime Minister Mr. Narendra Modi inaugurated the Kushinagar International Airport in Uttar Pradesh. The international airport is likely to facilitate the air travel requirements of international Buddhist pilgrims in India.
5. In August 2021, the government plans to implement a biometric boarding system using facial technology in six airports, including Bengaluru, Hyderabad and Pune. The project is currently in the testing phase.
6. The Ministry of Civil Aviation (MoCA) increased capacity of domestic flights to 65%, from 50%, effective from July 05, 2021.
7. The Ministry of Civil Aviation (MoCA) is hopeful that aspiring commercial pilots will soon be able to get trained in India without having to leave the country. In this regard, the government in July 2021 announced setting up eight new flying academies across the following five airports: Belagavi and Kalaburagi in Karnataka, Jalgaon in Maharashtra, Khajuraho in Madhya Pradesh, and Lilabari in Assam.
8. On May 08, 2021, AAI commenced commercial operations at Rupsi airport—Northeast India’s 15th airport and Assam’s 7th airport.
9. In March 2021, on the launch of the ‘Azadi Ka Amrit Mahotsav (India@75)’ by the Government of India, the Ministry of Civil Aviation (MoCA) has proposed 392 routes under the UDAN 4.1 bidding process.
10. The Airport Authority of India plans to abolish royalty and offer steep discounts in lease rent to encourage MRO units to set up facilities at its airports.
11. The government is planning to start 14 more water aerodromes across the country, after the successful launch of seaplane service by Prime Minister, Mr. Narendra Modi, between the Statue of Unity near Kevadiya in Gujarat's Narmada district and Sabarmati Riverfront in Ahmedabad in October 2020.
12. In November 2020, the Government of India announced that it is likely to increase the total number of allowed domestic flights to 75% of the pre-COVID-19 levels, as it expects a rise in passenger numbers due to the festive and holiday season.
13. In September 2020, the Government of India sanctioned Rs. 108 crore (US \$ 14.73 million) for Jagdalpur, Ambikapur and Bilaspur airports in Chhattisgarh under the UDAN scheme for upgrade and development.
14. Under Union Budget 2021-22, the government lowered the custom duty from 2.5% to 0% on components or parts, including engines, for manufacturing of aircrafts by public sector units of the Ministry of Defence.
15. Under Union Budget 2021-22, the Indian government expanded the scope for ‘Krishi Udaan’ in convergence with Operation Green Scheme, wherein air freight subsidy of 50% for agri-perishables would be provided to North East states and 4 Himalayan states/UTs. The expansion of product-coverage will boost the ‘Krishi Udaan’ scheme and improve air cargo transportation from these states.

16. In February 2019, the Government of India sanctioned the development of a new greenfield airport in Hirasar, Gujarat, with an estimated investment of Rs. 1,405 crore (US\$ 194.73 million).
17. Regional Connectivity Scheme (RCS) has been launched.

RECENT TRENDS IN INDIAN AVIATION SECTOR

1. Currently, six international airports have been completed successfully under PPP. The sector is expected to witness investments worth US\$ 25 billion by 2027.
2. Navi Mumbai airport is being developed under PPP by GVK Group subsidiary, Mumbai International Airport (MIAL), and City and Industrial Development Corporation of Maharashtra Ltd (CIDCO), with an investment of Rs 16,000 crore (US\$ 2.22 billion).
3. Rising business activity leading to higher demand for non-scheduled airlines.
4. As of February 2019, there were 99 operators (NSOP).
5. Increasing use of development fees by airport developers and operators.
6. Airport Development Fee: Delhi, Mumbai airports to fund expansion.
7. User Development Fee: Hyderabad, Bengaluru airports for maintenance.
8. Indian airports are emulating the SEZ-aerotropolis model to enhance revenues; focus on revenues from retail, advertising, vehicle parking, etc.
9. With the initiative of displaying “Art for a cause,” Nagpur airport became India’s first airport to take up the cause of empowering the girl child in a unique way.
10. Absence of complementary meals in low-cost airlines have boosted the F&B retail segment at airports.
11. Capacity will increase with new terminals coming up in Mumbai, Bengaluru, Chennai and Kolkata.
12. Indian carriers are expected to double their fleet capacity to around 1,100 aircrafts by 2027.
13. In December 2019, AAI announced its plans to set up India's first three water aerodromes in Andaman & Nicobar.
14. In January 2020, IndiGo became the first Indian carrier to have an aircraft fleet size of 250 planes and the first airline to operate 1,500 flights per day.
15. Indian low-cost carriers (LCC’s) are looking forward to increase their ancillary services, without tampering their business models. This includes services like lounge access, priority boarding, customer loyalty memberships and customer meals.
16. AAI has allowed the Bus Rapid Transit System (BRTS) buses to foray into airport premises in Surat. The initiative is to allow the passengers to reach airports on time and allow smoother transit. Source: Central Asia-Pacific Aviation
17. Indian LCC’s are looking forward to increase their low-cost products on routes which will take up to four hours (shorter international routes).
18. This will allow deleveraging of domestic fleet, increasing aircraft utilization and improving commercial performance.
19. Chennai, with its strategic location in South India, has a strong potential to become a hub, with connecting flights to Gulf and across South East Asia.

SUCCESSFUL PPP AIRPORTS IN INDIA

Presently, India has 5 PPP airports, one each at Mumbai, Delhi, Cochin, Hyderabad and Bengaluru, which together handle over 55 per cent of the country’s air traffic.

Government of India has approved 15 greenfield PPP projects which are expected to increase the air traffic in India. These projects would be setup in Goa, Navi Mumbai, Maharashtra, Bijapur, Gulbarga, Karnataka, Kerala, West Bengal, Madhya Pradesh, Sikkim, Puducherry and Uttar Pradesh. Government of Maharashtra approved development of Nagpur airport on PPP basis and allocated Rs 100 crore (US\$ 15.45 million) for it in the State Budget 2018-19. The airport will be upgraded on a DBFOT basis with a private player operating it for 60 years. In November 2019, Competition Commission of India (CCI) approved the acquisition of shareholdings in Mumbai International Airport Limited (MIAL) by Adani Properties Private Limited (APPL) .

| Name of the airport | Operator | Type of project/ PPP structure | Revenue sharing |
|---|---|--------------------------------|--|
| Chhatrapati Shivaji International Airport | Mumbai International Airport Ltd (MIAL) | Brownfield/BOOT | 38.7 per cent of gross revenue to be shared with AAI |
| Indira Gandhi International Airport | Delhi International Airport Ltd (DIAL) | Brownfield/BOOT | 45.9 per cent of gross revenue to be shared with AAI |
| Rajiv Gandhi International Airport | GMR Hyderabad International Airport Ltd (GHIAL) | Greenfield/BOOT | Concession fees – 4 per cent of gross revenue to be shared with AAI |
| Bengaluru International Airport Ltd | Bengaluru International Airport Ltd (BIAL) | Greenfield/BOOT | Concession fees – 4 per cent of gross revenue to be shared with AAI |
| Cochin International Airport | Cochin International Airport Ltd (CIAL) | Greenfield/BOO | Payment of dividend to the Government towards their 26 per cent equity capital |

Source: Association of Private Airport Operators

Notes: BOOT - Build Own Operate Transfer; BOO - Build Own Operate, DBFTO – Design Build Finance Operate Transfer

OPPORTUNITIES FOR FOREIGN INVESTMENT IN THE AVIATION SECTOR

Foreign investment in India is governed by the provisions of the Foreign Exchange Management Act, 1999 (“FEMA”), the regulations made thereunder by the Reserve Bank of India (“RBI”), and the Industrial Policy and Procedures issued by the Department of Industrial Policy and Promotion, the Secretariat for Industrial Assistance, the Ministry of Commerce and Industry, and the Central Government (the “FDI Policy”). Foreign investors are permitted under the FDI policy to invest in helicopter services/seaplane services, ground handling services, maintenance and repair organizations, flying training institutes, and technical training institutions. However, the most significant foreign direct investments have traditionally been undertaken in airports and airline operators.

Investment in Airline Operators: A significant amount of the total FDI in the Aviation sector is made in companies operating Scheduled and Non-Scheduled domestic passenger airlines. Scheduled Operators provide air transport services between two or more places and operate according to a published time table or with flights so regular or frequent that they constitute a recognizably systematic series, each flight being open to use by members of the public. Whereas, Non-Scheduled Operators provide air transport services that may be on charter basis and/or a non-scheduled basis. Such operators are not permitted to publish time schedules or issue tickets to passengers. To obtain status as a Scheduled or Non-Scheduled Operator the applicant must either be an Indian citizen, or a company which has its principal place of business within India, its chairman and at least 2/3 of its directors must be citizens of India, and its substantial ownership and effective control should be vested in Indian nationals.

FDI by Foreign Airlines: Prior to 2012 foreign airline companies were prohibited from investing in both Scheduled and Non-Scheduled airlines. However, pursuant to Press Note 6 of 2012 issued by the Ministry of Commerce and Industry,⁸¹ the Government opened the segment to FDI by foreign airlines.⁸² Currently, FDI is

only permitted up to 49% of the company's paid-up capital, and must be done through the government approval route. Further, the cap of 49% includes both FDI and FPI/FII investments. All foreign nationals likely to be associated with the Scheduled and Non-Scheduled air transport service must first obtain security clearance and all technical equipment imported as result of the investment shall require clearance from the Ministry of Civil Aviation. It should also be noted that to acquire a Scheduled or Non-Scheduled Operator's permit, substantial ownership and effective control and management of the company must remain within India.

Investment in Airports: The airport segment of the aviation sector is growing to meet the demands of increased passengers. The expected 300% increase in passenger numbers over the next decade will require a significant investment in airport infrastructure. Recognizing this need and the fact that the AAI itself has neither the capital nor the expertise to grow at such scale, the Government has adopted the Public-Private Partnership ("PPP") model for several airport projects.⁸³ As of March 2015, there are 5 international airports functioning under the PPP model,⁸⁴ and these account for approximately 60% of total passenger traffic in the country.⁸⁵ Recently, the Government has furthered its efforts to encourage the use of the PPP model for developing airports. For example, pursuant to the NCAP 2016, the MCA has committed to coordinate with respective ministries and State Governments to provide multi-modal hinterland connectivity (road, rail, metro, waterways, etc) for the success of airport projects.⁸⁶ It has also ensured that it will coordinate with AERA, AAI, airlines,

CONCLUSION

The aviation industry has marked one year since the world's economy has started to feel the impact of the COVID-19 pandemic, which has resulted in a sharp decrease in the demand for passenger air transport. The analysts forecast that despite the COVID-19 vaccines and testing procedures rolling out worldwide, the recovery of demand for air travel would take several years and would not reach the pre-crisis levels before 2024. While all the regions worldwide are impacted by the crisis, some of them are expected to perform better than others. The most recent estimates made by the state-owned India Brand Equity Foundation (IBEF), suggest that despite being affected by the pandemic crisis, India is set to become the third-largest aviation market by 2024. For a few years before the pandemic, the aviation sector of India had seen a significant growth driven by the high demand for air travel, private investments in the country's airports as well as new regional airport openings. But when the pandemic started spreading across India in 2019, scheduled international flights and domestic passenger flights were suspended from March 23 and March 25, 2020. The move significantly affected the whole aviation business.

However, the Ministry of Civil Aviation of India resumed domestic operations in May 2020, initially giving a chance for the country's airlines to operate only 33% of their previous capacities while gradually increasing it up to 80% by the end of 2020. According to Indian ratings agency ICRA, due to air travel restrictions, the domestic passenger traffic between May and September 2020 reached only 11 million in comparison to 70 million for the same period in 2019.

The IBEF forecasts that while Indian aviation is expected to report losses of \$4 billion in 2021, the rising working group and widening middle-class demography should significantly boost the post-pandemic demand for air travel.

Currently, India is the seventh-largest civil aviation market in the world and the third-largest aviation market in terms of domestic operations. The authority projects that India can even overtake the United Kingdom and become the third-largest world's aviation market in terms of air passengers by 2024.

Meanwhile, the freight traffic grew by more than 5% from 2.70 million tonnes to 3.33 million tonnes in 2016-2020*. Based on this tendency, analysts estimate that cargo traffic in Indian airports has the potential to reach even 17 million tonnes of freight by 2040. It is expected that by 2023, the total freight traffic will reach 4.1 million tonnes while sharply increasing the compound annual growth rate (CARG) to 7.27% between 2016 and 2023. In comparison, the freight traffic reached 3.32 million tons in 2020. In the National Air Cargo Policy Outline the government of India predicts that the Indian air cargo and logistics have a significant potential to become the most efficient, and the cost and time-effective globally by the end of 2030. It is expected that the growth of freight traffic will be encouraged by the forecasted boost in import and export in India since 30% of Indian trade total is transported by aircraft. To encourage the development of the aviation industry in the

country, the government of India also plans to invest up to \$ 1.83 billion in the development of airport infrastructure along with aviation navigation services by 2026. The country aims to open 100 new airports by 2024, of which 30 airport projects are already in progress across various regions of India. According to the Ministry of Commerce and Industry data, India has envisaged increasing the number of its airports to a total of 190-200 by 2040.

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ARTIFICIAL INTELLIGENCE: THE FUTURE OF FASHION

**Lotika Gupta*

**Assistant Professor, DDJM College for Women, Ludhiana*

ABSTRACT

Digitalization is the motivation behind the retail sector, turning shopping into more expedient, more pleasurable and more cost-effective experience. The rise of innovation and digitalization in fashion has altered the face of the industry. The concept of "artificial intelligence" was introduced for the first time in 1950s, and it has been developing for more than 60 years. Artificial intelligence is to study in which the computer is made to do the work, only humans could do earlier. AI is transforming the fashion industry. AI technologies are bringing about change in every step of value chain such as designing, manufacturing, logistics, marketing and sales in the fashion industry. Progressively, more and more fashion brands are using AI and machine learning to maximize users' shopping experience, improve the effectiveness of sales systems through intelligent automation, and augment the sales processes using predictive analytics and guided sales processes. However, the implications and challenges of AI, which are principally unregulated, may continue to raise new legal issues, but the law will have to address the crossroads of AI with intellectual property and privacy issues to avoid threats to innovation and better define the parameters of possession and safety of intellectual property and data. This paper is centred on the uses of AI, tools used and implications in the use of Artificial Intelligence.

KEY WORDS: Artificial intelligence, Fashion, Industry, Designing, Sustainability

INTRODUCTION

Digital technologies such as mobile internet, advanced analytics, virtual and augmented reality, advanced robotics and artificial intelligence are intensely changing the industry and setting the stage for adoption of digital technologies by majority customers. These technologies are geared to match customer and enterprise behaviour trends (Pupillo 2019). Digitalization is the motivation behind the retail sector, turning shopping into more expedient, more pleasurable and more cost-effective experience. The rise of innovation and digitalization in fashion has altered the face of the industry (Stirbu 2019).

The concept of "artificial intelligence" was introduced for the first time in 1950s, and it has been developing for more than 60 years. The first rise in artificial intelligence was seen for the first time in 1962, when Arthur Samuel from IBM, developed an intelligent program for checkers that overcame a blind checkers master and attracted numerous media coverage (Huo *et. al.* 2019).

Artificial intelligence is to study in which the computer is made to do the work, only humans could do earlier. Artificial intelligence is a amalgamation of computer science, control theory, information theory, neurophysiology, psychology, linguistics, philosophy and so on and involves mutual penetration of cross discipline subjects (Wei 2018).

AI is transforming the fashion industry. AI technologies are bringing about change in every step of value chain such as designing, manufacturing, logistics, marketing and sales in the fashion industry. Progressively, more and more fashion brands are using AI and machine learning to maximize users' shopping experience, improve the effectiveness of sales systems through intelligent automation, and augment the sales processes using predictive analytics and guided sales processes. Fashion brands have started to use conversational assistants like chatbots and voice assistant devices such as Amazon Alexa, Apple Siri, Google Home, and the likes. Using conversational interfaces, fashion brands can collect data by asking questions from customers. An understanding of buyer's requirements and their purchase patterns leads to suggestions related to clothing and add-on items (Shukla 2020).

The fashion industry utilizes AI in an innovative way. The data from the Internet and social media is compiled to gain an understanding of quickly evolving fashion trends. Consumers' requirements are

identified and AI helps in designing process, and collection of data on key features of competing fashion lines and price points. The collection of such huge amounts of data and the ability to analyse that data in an objective and efficient manner using AI is a benefit to the fashion industry (Natter 2020).

A number of well-known fashion designers are using this technology to fashion design, which has resulted in emergence of smart clothes. Smart clothing can perceive the external and internal environment and respond to this change in real time. The artificial intelligence and smart clothing can adapt to people's various wear needs (Wei 2018).

In the fashion industry, the chief reason for consumer's discontent with the products is in terms of size, colour, and style. Therefore, it is essential for the industry to become customer-centric. Moreover, the production processes are to be regulated to adopt environment-friendly manufacturing practices to alleviate waste production and management. This can be achieved by taking advantage of up-and-coming Artificial Intelligence (AI) techniques to create a sustainable digital supply chain (Giri *et. al.* 2019).

Clothing can be made intelligent in two ways:

- By using intelligent clothing materials, like shape memory materials, phase change materials, colour materials and stimulus-response hydrogels, etc.
- Secondly, by using microelectronics technology and information technology, communication technology and power supply including the application of conductive material, flexible sensor etc. (Wei 2018).

APPLICATIONS OF AI TO FASHION

1. CUSTOMER EXPERIENCE ENHANCEMENT

a) Chatbots or AI smart Assistants: For personalized online shopping use of chat bots or AI smart assistants can be the most useful. These are virtual machines interact with customers via chat, respond to customer service inquiries, help users navigate ranges online and in-store, recommend clothing and accessories that best suit a particular customer just like human shopping assistants.

Chatbots can be of two types: scripted and artificially intelligent.

- **Scripted chatbots** are able to follow only a programmed set of rules. It means that they are only able to answer the questions they are programmed for.
- **Artificially intelligent chatbots** are able to interpret human language and are capable of coming up with answers to questions that have not been programmed. Chatbots use Natural Language Processing (NLP) that makes it possible to tailor marketing activities such as email, social media posts, customer services contacts and product reviews.

b) Image Search. Fashion is probably one of the industries that relies the most on images. Image search generally refers to the process of finding images using a text input. Personalized shopping can also be attained using AI applications based on computer vision and augmented and virtual reality.

- **Reverse image search** is the process by which an image is used to find another image.
- **Visual search**, a subset of reverse image search, which means, finding items within an image and searching for those. Eg. a similar pair of shoes in an image can be found with this application.

c) Personal AI Stylist. Having a Personal stylist would represent the top of personalization, but it is expensive. AI is making this possible by creating personal virtual AI stylist. This product is the pinnacle of the many technologies: natural language processing, natural language understanding, computer visions, neural networks and various types of machine learning.

d) 3D virtual fitting technology uses a smart camera to acquire information about a customer's face and body and generates a 3D model. The system makes the face-shape adjustment and hair style selection, and restores the real shape of consumers as far as possible. The system automatically records the customer's information and

consumption preferences during the fitting until the purchase is complete. So the user can be accurately recommended the right style (Huo et. al. 2019).

e) Customer experience enhancement in-store. Digital technologies also enhance customer experience in stores. Fashion luxury brands are using smart mirror technologies in their physical stores. A smart mirror is “a two-way mirror with an electronic display behind it. The mirrors let users not only see how they look in a garment with different colours, but also to change type of clothing and make side-by-side comparisons of different outfits.

2. PREDICTIVE ANALYTICS AND AI FOR TREND AND DEMAND FORECASTING

Many fashion brands such as The North Face, ASOS, Tommy Hilfiger, Amaro etc. use Fit Analytics. Fit Analytics uses information (height, weight, age and fit preference) supplied by the customers to come up with a best-fit recommendation. Fit Finder is capable of making more than 500 million recommendations every month. Predictive analytics could identify which customers are more likely to make a purchase, and fight frauds and detect suspicious transactions.

3. PRODUCT, INVENTORY AND SUPPLY CHAIN MANAGEMENT

In the fashion industry, inability to predict demand, lead to an excess of some products and a shortage of some others in the supply chains. To manage a supply chain effectively it is essential to understand the nature of the demand for the products one’s company supplies. AI enhances the crucial elements of supply chain management. AI can streamline every aspect from demand to inventory to supply with minimal human input. It saves time and reduces error. AI can access and analyse infinite data at once. In less time, it examines information like weather, traffic, etc., to improve demand and supply. Easier access to data records, along with future predictions and feedback from customers. AI can also help in designing and promoting products. AI can also catalyse the mechanical processes, including transport and logistics. AI is especially useful to improve accuracy, reduce human labour cost, and decrease lead times (Pervaiz 2020).

4. AI for operations automation

In the fashion industry, industrial robots are used for sewing. Using sewing robots has significant advantages in cost reduction, reshoring production, reducing waste and environmental impact and increasing manufacturing flexibility. In addition, robots in the fashion industry are used in the warehouse for picking and packing procedures. For instance Nike, has invested in GRABIT that provides electro adhesion-based gripping products for robotics and material handling applications in logistics.

5. ARTIFICIAL INTELLIGENCE FOR THE DESIGN PROCESS

Designing involves taking of a number of decisions. Some of them are highly complicated and need high levels of imagination and creativity, but many decisions, require less imagination and more problem-solving skills. Examples of these detailed decisions are the choice of the functional shape of an object, the design of the product interface for a user, or which information to display on a screen. There are plenty of detailed problems to be addressed during design. AI offers the intelligence to solve them (Verganti et. al. 2020). An area of growing interest for the fashion industry is the use of AI for fashion design. Amazon in 2017 announced the possibility of training a generative adversarial network (GAN) from the family of generative models, to design garments. Amazon’s elementary AI fashion designer learns about a particular style of fashion from images and can generate new items in similar styles from scratch.

- **Shimmy Technologies**

Swimwear is notoriously difficult to measure, and tailors need to take measurements multiple times. Shimmy combined with IBM’s Watson AI to develop a system such that when tailors give a measurement to the computer, it creates a 3D model of a design. Use AI reduces designers’ work time by 20%.

- **Stitch Fix:** Using customer feedback for items such as colour, sleeve style and hem length, it creates new styles by recombining features from existing styles and modify them slightly. These new styles are then

evaluated and approved by human stylists before they reach the clients. The online styling company uses genetic algorithms to design new apparel styles.

- **NEUE**, a Swedish fashion-tech company, that had developed a chip with sensors and processors that enabled the control of electro-luminescent fabric, worked with New York's Fashion Institute of Technology to design a garment.

6. AI FOR SUSTAINABLE FASHION

The fashion industry is known to be polluting, as it requires raw materials such as leather in excess, consumes an enormous quantity of water to dye fabric and produces a great waste of fabric due to current trends of fast fashion. To be more sustainable the fashion industry should start from new types of fabrics. Material innovation and biotechnology could play a great role. Artificial intelligence technology offers a sustainable solution to fashion, reducing overall inventory levels by 20-50% and improving labour conditions in the fashion industry. Fast fashion poses a serious threat to the planet, with global textile production more than doubling in the last 15 years and total greenhouse gas emissions from this at 1.2 billion tonnes annually. Brands like Stitch Fix are already combining AI with fashion, indicating a future in which the fashion industry is efficient, sustainable, and personalized (Pupillo 2019).

7. AI AND TRADEMARKS AND COUNTERFEITING

AI has offered positive developments for brand owners in the area of trademarks and counterfeiting. AI technologies have image processing capabilities that can identify potential violation and verify the genuineness of a product. One example, used by Burberry, is a service offered by Entrupy, which offers a machine learning app to detect counterfeit fashion items based upon a database of authentic luxury items. This service claims to have a 99.1% accuracy rate and has taken data samples from the last 80 years through the present in order to identify fake versus authentic items (Natter 2020).

POPULAR AI TOOLS

Most commonly used tools of AI are: Machine learning, Generative Adversarial Networks, Fuzzy Logic, Genetic Algorithms, Neural Networks, Decision Trees, Bayesian Networks and Knowledge Based Systems and their variations. They have been used to infer relationships between previous fashion trends and future trends.

- **Machine learning (ML)**; according to OECD ML is: “a set of techniques to enable machines to learn in an automated manner using patterns and interferences, without explicit instructions from a human. ML often teaches machines to reach an outcome by showing them many correct outcomes, but they can also define a set of rules and let the machine learn by trial and error”
- **Generative Adversarial Networks (GANs)** are another AI technique and are used to improve the efficiency of unsupervised learning. GANs use two separated neural networks: the first one generates results, while the second one evaluates the accuracy of these results. In the fashion industry, GANs were proposed by Amazon in 2017 for creating AI fashion designers.
- **Data Mining** is an AI technique based on data. Data mining deals with data collection and uncovers useful information from large data sets. For the fashion industry, social media data can be very valuable for learning how customers feel about products and trends.
- **Fuzzy logic** is an approach that utilizes indecision and approximate reasoning. It is a method of reasoning that is very close to human reasoning and human decision making. It considers all the possibilities between truthfulness and falsehood with degree and works closer to human brain because it results in a straightforward like or dislike.
- **Artificial Neural Networks (ANNs)** is a learning method inspired by animal nervous systems. ANNs are composed of multiple nodes, just like neurons in the human brain. The neurons are inter-connected and they interact with each other. The nodes can process the input data by performing simple operations. This method works well for modelling complex styling tasks with multiple features.

- **Knowledge-Based Systems** are knowledge based programs that use reasoning to solve complex problems. They show the relationships between features of fashion styles.
- **Decision Trees** Decision trees are used to derive conclusions based on the data obtainable from decisions made in the past. These are tree-structured graphs that symbolize attributes as internal nodes and outcomes as branches. They are widely used in human decision-making models.
- **Genetic Algorithms (GAs)** are search techniques that look for approximate or exact solutions to optimization problems. This algorithm is important because it solves difficult problems that would take a long time to solve. It has been used in various real-life applications such as data centres, electronic circuit design, code-breaking, image processing, and artificial creativity.
- **Interactive Genetic Algorithms (IGAs)** IGA is defined as a genetic algorithm that uses human evaluation. The main purpose of these techniques include areas where it is hard to design a computational fitness function, for example, images, music, designs and forms to fit a user's aesthetic preferences. These are used to achieve real-time interaction (Wang H and Rasheed K 2014).

REASONS OF QUICK ADOPTION OF ARTIFICIAL INTELLIGENCE IN FASHION

- The rapid development of the Internet provides a broad data base for artificial intelligence.
- The computer chip's integration and working speed improvement, has enabled artificial intelligence to process data accurately and quickly.
- The improvement of artificial intelligence has led to development of the intelligent statistical analysis system and face recognition system. The technology of commodity identification is important for clothing industry.
- Changes in national policies, economic and social attitudes have led to people's confidence in AI (Huo et. al. 2019).

DRAWBACKS OF ARTIFICIAL INTELLIGENCE

Design and Technical Difficulties. While designing an intelligent garment one needs to consider every aspect. Many creative ideas cannot be achieved because of fabric constraints or technological backwardness. To apply theory to practice is a difficult task and we still need to overcome all kinds of technical problems. We need to development the science and technology to solve these problems.

Higher Price: Smart clothing need to use special intelligent fabrics or intelligent wearable devices. And these fabrics and equipment are much more expensive, resulting in higher price of the final product. So, the price will be a big factor restricting the development of smart clothing.

Security Issues: Smart clothing is linked with the Internet resources. Many kinds of intelligent clothing require the user's private information like location information and other sensitive information. It gives hacker a lot of opportunities to steal the information. On one hand, smart clothing has facilitated people's lives. On the other hand, it also provides a lot of information to the criminals. In the future, if we want to promote the intelligent clothing, designer should be considerate to improve the safety.

Difficult Points to Promote in the Market: Consumers in the market have different levels of consumption level and consumption view. On one hand, smart clothing is pricier than regular clothing and it is in its investigational phase, due to which most consumers give up buying. On the other hand, due to the imperfection of technology, many intelligent products bring poor user experience to consumers. These are the inevitable problems in the process of smart clothing promotion (Wei 2018).

Implications for Intellectual Property Law and Privacy: The use of AI involves legal challenges in terms of intellectual property rights. There are many challenges with respect to disclosure, infringement, identification of inventor and owner and copyright laws. AI raises privacy concerns for consumers, where the targeting of individual consumers permeates many categories of data, including personal data that consumers may not have expected to be the kind of information collected by fashion companies (Natter 2020).

CONCLUSION

AI is bringing a great transformation in fashion industry by revolutionizing each element of its value chain such as designing, manufacturing, marketing, sales and logistics. (Dsouza 2021). The use of AI has been tremendously advantageous in allowing fashion companies to address market demands better, improve associations with customers, and use social media and other platforms to augment sales and offer a more interactive experience. The rapid development of AI will continue to unearth new applications of AI. However, the implications and challenges of AI, which are principally unregulated, may continue to raise new legal issues, but the law will have to address the crossroads of AI with intellectual property and privacy issues to avoid threats to innovation and better define the parameters of possession and safety of intellectual property and data.

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REORIENTATION OF INNOVATION STRATEGY AND INNOVATION PERFORMANCE THROUGH KNOWLEDGE MANAGEMENT

**Aasim Mir **Gaurav Sehgal*

Assistant Professor, Department of Management Studies, Baba Ghulam Shah Badshah University, Rajouri

***Assistant Professor, Department of Management Studies, Baba Ghulam Shah Badshah University, Rajouri*

ABSTRACT

Knowledge Management is now a day critical success factor for survival of any organization. Knowledge Management includes in its scope mechanisms for acquisition of required and adequate knowledge and then lays out phenomenon for dissemination and sharing of knowledge further followed by utilization of that knowledge effectively. Innovation as defined accounts for development of something new in a new way and innovation strategy accounts for determination of innovative goals and objectives, determining courses of actions and allocation of resources for achieving objectives. Innovation performance on the other hand accounts for evaluating performance linked to several diversified innovation based on task and contextual framework. Current research study shall determine association of various dimensions of knowledge management with Innovation Strategy and Innovation Performance among pharmaceutical employees in Jammu division. The research study includes Knowledge Acquisition, Knowledge Sharing and Knowledge Application as dimensions of Knowledge Management.

KEYWORDS: *Knowledge Management, Knowledge Acquisition, Knowledge Sharing, Knowledge Application, Innovation Strategy and Innovation Performance.*

INTRODUCTION

The whole world know a day talks about achieving a level of competitive advantage which in turn shall help in enhancement of capabilities with respect to all functional areas and finally an organization is able to achieve higher level of strategic advantage. Knowledge Management today is one among the greatest and crucial resource an organization has and any organization needs proper mechanisms for development of strategies for proper planning, management and utilization of knowledge management resources. Knowledge management database has wider scope and considering its limit is almost impossible today. It holds under its scope mechanisms for acquisition of knowledge and information, processing pattern of knowledge and information, management processes of knowledge and information and phenomenon for proper distribution of knowledge and information whenever and wherever required. Furthermore organizations today are also paying much attention today's innovation and are always in search for devising strategies that help organizations to achieve innovation advantage as compared to other rivals. Innovation strategy holds under its scope determination of innovation goals, defining of courses of action for innovation process and availability of feasible resources to achieve innovation goals. Innovation performance is one step ahead that accounts for determining the overall performance achieved through new and refined innovative processes. It progresses through evaluation of achieved results and their comparison with earlier defined objectives and goals. The current research study is an initiative to determine the role of knowledge management practices and their impact on Innovation Strategy and Innovation Performance among employees working in pharmaceutical sector in Jammu division.

LITERATURE REVIEW

Gharakhani and Mousakhani (2012), conducted a research study and found that there are two varied forms of knowledge Acquisition dimension of Knowledge Management. These were identified as transformation of traditional knowledge into new mechanisms and identification and acquisition of entirely new knowledge. It was

further deliberated that Knowledge Management dimensions effectively connects to Innovation Strategy and Innovation Performance.

Ozkaya et al. (2015), conducted a research study and came up with the findings that knowledge identified from market sources acts as a competitive factor for accessing innovations and allied segments. Moreover further research could elaborate the new segments and issues like how this knowledge domain shall have an impact on marketing initiatives and customers thus making ways for identification of capabilities and performance based on financial parameters.

Gharakhani and Mousakhani (2012), further deliberated a research study and found that knowledge sharing is a wider concept and it further includes experiences of people linked to organization, ways of acquiring knowledge, mechanisms for organization of knowledge and utilization of knowledge in a proper manner.

Barney (1991), conducted a research study considering organizational resources (tangible and intangible) and their linkages with competitive advantage and value creation strategies. It was presented from the study that both intangible and tangible resources are part of overall organizational resources and are equally important for survival of an organization. Competitive advantage can only be achieved when proper consideration is paid for both types of resources (tangible and intangible) and through proper deliberations and innovation strategy an organization can improve its performance both on task as well as contextual front.

Ning and Li (2016), conducted a research study considering knowledge acquisition capacity and efficiency based on innovation. It was found from the research study that knowledge acquisition capacity is positively associated with efficiency based on innovations.

(Lee et al., 2013), came up with findings from their research study that knowledge application is significantly associated with innovations which can be either based on product mechanism or process mechanism. Moreover it is responsible for uprising of efficiency, growth, improvement in quality and satisfaction of customers.

OBJECTIVES

1. To identify the association between knowledge acquisition and innovation strategy.
2. To access the impact of knowledge acquisition on innovation performance.
3. To identify the connotation among knowledge sharing and innovation strategy.
4. To find out relationship between knowledge sharing and innovation performance.
5. To recognize the association between knowledge application innovation strategy.
6. To access relationship between knowledge application and innovation performance.

MATERIAL AND METHODS

Present research study has been initiated through use of both data (primary as well as secondary).

Secondary data shall be collected from various offices situated at state, zonal and local level. It shall be further collected through various research papers, articles, books etc. published in several National and International Journals and publishing houses. Primary data has been collected using a pretested questionnaire based on several items which represents knowledge acquisition, knowledge sharing, knowledge application, innovation strategy and innovation performance. The respondents shall be around 120 pharmaceutical sector employees working in Jammu division.

RESULT AND DISCUSSION

Knowledge Management plays a very crucial role in devising mechanism for Innovation Strategy and Innovation Performance. Table 01 represents values of relationship between Knowledge Acquisition dimension of Knowledge Management and Innovation Strategy. It was found that Knowledge Acquisition has a significant impact on Innovation Strategy. The values of estimates, Standard Estimates and p value is 1.259, 0.649 and 0.021.

Table 01: Knowledge Acquisition and Innovation Strategy

| Dimensions and Sub – dimensions | Relationship | Estimates | Standard Estimates | p-Value | Significance (Yes/No) |
|---|--------------|-----------|--------------------|---------|-----------------------|
| Knowledge Acquisition - Innovation Strategy | KA - IS | 1.259 | 0.649 | 0.021 | Yes |

Table number 02 holds values of connotation between Knowledge Acquisition and Innovation Performance. It is evident from the results that Knowledge Acquisition and Innovation Performance hold strong association. The values of estimates, Standard Estimates and p value is 1.262, 0.638 and 0.012.

Table 02: Knowledge Acquisition and Innovation Performance

| Dimensions and Sub – dimensions | Relationship | Estimates | Standard Estimates | p-Value | Significance (Yes/No) |
|--|--------------|-----------|--------------------|---------|-----------------------|
| Knowledge Acquisition - Innovation Performance | KA - IP | 1.262 | 0.638 | 0.012 | Yes |

Table number 03 shows association between Knowledge Sharing and Innovation Strategy. Results clearly depict that Knowledge Sharing dimension of Knowledge Management does not any influence on devising mechanisms for Innovation Strategy. The values of estimates, Standard Estimates and p value is 0.065, 0.072 and 0.211.

Table 03: Knowledge Sharing and Innovation Strategy

| Dimensions and Sub - dimensions | Relationship | Estimates | Standard Estimates | p-Value | Significance (Yes/No) |
|---|--------------|-----------|--------------------|---------|-----------------------|
| Knowledge Sharing - Innovation Strategy | KS - IS | 0.065 | 0.072 | 0.211 | No |

Table number 04 holds values of association between Knowledge Sharing and Innovation Performance. Findings showed strong association between Knowledge Sharing and Innovation Performance. The values of estimates, Standard Estimates and p value is 1.319, 0.622 and 0.011.

Table 04: Knowledge Sharing and Innovation Performance

| Dimensions and Sub - dimensions | Relationship | Estimates | Standard Estimates | p-Value | Significance (Yes/No) |
|--|--------------|-----------|--------------------|---------|-----------------------|
| Knowledge Sharing - Innovation Performance | KS - IP | 1.319 | 0.622 | 0.011 | Yes |

Table number 05 shows association between Knowledge Application dimension of Knowledge Management and Innovation Strategy among pharmaceutical sector employees in Jammu division. Findings showed strong association between Knowledge Application and Innovation Strategy. The values of estimates, Standard Estimates and p value is 1.213, 0.666 and 0.012.

Table 05: Knowledge Application and Innovation Strategy

| Dimensions and Sub - dimensions | Relationship | Estimates | Standard Estimates | p-Value | Significance (Yes/No) |
|---|--------------|-----------|--------------------|---------|-----------------------|
| Knowledge Application - Innovation Strategy | KA - IS | 1.213 | 0.666 | 0.012 | Yes |

Table 06 represents association of Knowledge Application dimension of Knowledge Management with Innovation Performance. Results showed that Knowledge Application has a strong association with Innovation Performance. The values of estimates, Standard Estimates and p value is 1.227, 0.636 and 0.019.

Table 06: Knowledge Application - Innovation Performance

| Dimensions and Sub - dimensions | Relationship | Estimates | Standard Estimates | p-Value | Significance (Yes/No) |
|--|--------------|-----------|--------------------|---------|-----------------------|
| Knowledge Application - Innovation Performance | KA - IP | 1.227 | 0.636 | 0.019 | Yes |

CONCLUSION

Knowledge Management has been seen significantly having an impact on Innovation Strategy and Innovation performance. It was witnessed from the current research study that Knowledge Acquisition has a great level of impact on Innovation Strategy and Innovation Performance of workers working in pharmaceutical sector in Jammu division. However Knowledge Sharing has an impact on Innovation Performance but did not show any sought of association with Innovation Strategy. Furthermore Knowledge Application plays a significant role in devising mechanisms for Innovation Strategy and Innovation Performance of workers working in pharmaceutical sector in Jammu division.

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INSIGHTS ON DIGITAL SUPPLY CHAIN MANAGEMENT

**Deepak Hajoary*

**Assistant professor, Department of Management Studies, Bodoland University, Kokrajhar, Assam*

ABSTRACT

The use of technology in the logistics industry is becoming increasingly popular as it can offer companies several benefits. One such example would be digital supply chain management, which allows you to track your shipment from origin to delivery at the destination. This helps identify inventory or shipping container issues before they become major issues and saves time by avoiding unnecessary interruptions. This chapter discusses some of the digital supply chain management issues organizations face over the long term.

DIGITAL SUPPLY CHAIN

The flow of goods in a typical supply chain includes product design and sourcing raw materials and parts, manufacturing the product, estimating demand, planning how the end product will be marketed, taking orders, organizing logistics and distribution channels, and following up on the charges giving customers information about their orders.

Objects tend to move in a straight path, with each step building on the one before it. The linear predigital approach to supply chains, while conceptually simple, relies on each stage in the process performing nearly as predicted. If an assembly provider fails to deliver, downstream consumers may face delays or additional expenses.

Today many companies are beginning to transform their business digitally. This means digitizing how they work across all areas of their company, including finance, marketing, operations and logistics. These digitally connected businesses can respond much faster to market changes because it takes much less time to update information instead of waiting for reports or printing documents for physical memos between departments. By adopting digital technology, many companies have improved their efficiency dramatically, allowing them to move faster than ever before without sacrificing quality.

Companies are using digital technology to solve challenges across their business. Some significant improvements have been recorded by companies in the fashion, retail, consumer packaged goods and government space who have used digital transformation to their benefit. These forward-thinking organizations are solving complex market problems with the help of big data analytics, IoT devices, intelligent sensors and A.I. algorithms. A company can see an increase in revenue up to 20% on average after implementing digital transformation efforts successfully.

When companies decide to create a new product line or launch a new product, there is often a gap between what is wanted and available for sale. Companies that didn't digitally transform may be unable to fulfil their orders correctly because all of the information was not in one place to do a complete analysis of their sales channel's needs. In 2017, it took an average of 19 days for inventory to turn over. This means that it takes 19 days from when a company orders something from its supplier until they can sell it to the end consumer.

This would have been a severe problem in the predigital age because there were no systems in place to accurately predict what consumers or retailers needed and when they needed it.

Digital transformation has allowed many companies to understand their customers' needs better and deliver products before an order is placed, whether locally at a store or online with drop shipping. Learning about your customer's behaviour helps you create products relevant to the market and will sell more efficiently, lowering your risk.

It also allows you to better source materials for your supply chain by learning about excess capacity or resources available. An excellent example of this was when Jeff Bezos first started selling books on Amazon. He first used the data his customers were inputting on their orders to create a list of all of the locations in America that had multiple copies of each book he sold. By doing so, Jeff was able to identify independent publishers with extra inventory or new authors willing to give him reduced prices because he could act as an initial distribution point for these goods before they were filtered down through traditional distribution channels. This allowed him to build up some brand loyalty among new authors that they could then take to the bookstore chains later on.

Digital transformation allows companies geographically spread out or have complex supply chains to work better together. This helps them bring products to market faster, reduce waste, and also allow you to use different service providers in your supply chain.

One area where digital transformation has had a huge impact is in retail. Retailers can now monitor what's selling to their competitors to adjust accordingly.

When products sell out, online retailers like Amazon can direct new inventory shipments directly from the warehouse closest to its destination. Hence, customers get the product more quickly. If one company is running low on stock, another retailer can instantly see that and order more. This benefits everyone involved and helps to eliminate the problem of excess inventory.

Digital transformation allows companies to monitor their supply chain performance and provide more transparency for customers about where their order is in the supply chain. In today's interconnected economy, all parties within a supply chain must have up-to-date information on an order that can be shared quickly and easily. Digital transformation platforms allow every worker from production through delivery to have real-time visibility into what's going on everywhere else in the system. This has helped companies reduce waste by identifying mistakes as they happen within a process, without having to ship a product back or reprint materials after it leaves the factory.

When companies can implement processes such as these, it helps them bring products to market faster and scale more efficiently while reducing the cost associated with making mistakes.

Digital transformation is all about breaking down barriers inside an organization and helping employees interact in new ways that were never possible before. This allows companies across a supply chain to collaborate better and work together towards a common goal: bringing their product or service to market for their customers.

DIGITAL SCM EXPLAINED?

A digital supply chain is a series of processes that use advanced technology and better insights into the functions of each stakeholder along the chain so that each participant can make better decisions about what sources of material they need, the demand for their products, and any relationships between.

Full integration of legacy supply chain management technologies requires planning, asset management, warehouse management, transportation and logistics management, procurement and order fulfilment as the first step. But the actual digitization of a supply chain also includes integrating new technologies such as artificial intelligence (A.I.), 3D printing and blockchain.

WHAT IS A SUPPLY CHAIN?

A supply chain is the network of suppliers, manufacturers, warehouses and distributors involved in getting products to consumers. On an international level, the supply chain starts with mining or growing raw materials overseas and eventually delivers goods to willing buyers worldwide. The term "supply chain management" (SCM) refers to how businesses organize themselves to optimize customer satisfaction through just-in-time deliveries while minimizing cost and waste.

Today's global economy requires companies to manage complex networks made up of millions of daily transactions. Supply chains are used by digital and traditional processes to integrate functions such as designing a product, procuring needed raw materials and parts, estimating demand, planning the product introduction

schedule, arranging for supply, selecting sales channels, delivering support and providing customers with visibility into orders.

Supply chain management is the process of planning, implementing and managing all activities involved in getting goods and services to customers. An efficient supply chain brings down costs for both consumers and manufacturers. A successful supply chain network needs to balance the demand against inventory, manage risk associated with uncertain demand or supply disruptions, ensure quality at each step of the process and deliver products securely worldwide.

The benefits of efficient supply chains are felt throughout the value chain as higher revenue through lower operating costs leads to greater profits for suppliers, distributors and retailers alike. Just-in-time (JIT) practices developed by Japanese manufacturers in the 1980s eventually led to the development of supply chain practices for the 1990s. Best practice supply chains are highly efficient, tightly controlled systems with complete visibility from the customer's order to suppliers' raw materials.

A pharmaceutical industry supply chain, for example, would link a drug maker with companies involved in supplying raw materials, manufacturing, packaging, regional warehousing, wholesale distribution and retail pharmacies. A retailer's supply chain might begin at a toy manufacturer and end when they place an item on their shelves.

The Middle East is emerging as one of Asia's most important trading partners in today's global economy. They have already surpassed Latin America as the second-largest importing region for China after Europe. The Gulf Cooperation Council (GCC) countries are the largest trading partners of India in the Middle East and account for nearly one-third of total trade with the UAE alone.

To support this increased demand, Indian companies are strengthening their supply chains through new markets and partnerships while increasing productivity to remain competitive in today's marketplace. The Gulf Cooperation Council (GCC) countries import a wide variety of Indian products, including petroleum products, plastics and chemical products, iron and steel goods and machinery. One area where exports continue to rise is high-tech defence technology.

The Gulf Cooperation Council (GCC) is also becoming a significant focus of India's energy policy. The UAE was recently included in India's oil sourcing plan. The UAE has emerged as India's third-largest trading partner and its fourth-largest source of imported goods behind China, the U.S. and Germany.

India sees excellent potential for growth in the region. Still, an expansion into this market could prove challenging if supply chains do not meet necessary standards because doing business with countries like Oman requires extensive planning and care to identify partners who have sufficient safeguards to ensure their products' quality.

Many companies are still struggling to keep up with regional expectations of compliance and security. Doing business in the region means understanding the cultural, political and legal factors underlying supply chain requirements.

Maintaining a secure supply chain is no easy task, but the implications of failure are significant. A recent report by McAfee titled "Insider Threat Report" reveals that cyberattacks on supply chains have increased by 79 per cent since last year. The company's research shows that 97 per cent of attacks come from within an organization, which also suggests they come from employees who know how to bypass existing security measures. According to the study, most hackers download apps onto their smartphones or use USB drives to access information stored on servers before selling it on black markets. Criminals can purchase it for as little as \$20 per person.

As globalization accelerates, companies connect operations across international borders to deliver better value for customers. The resulting supply chain has become a critical competitive factor as businesses strive to reduce costs and go-to-market time while increasing customer satisfaction.

Traditional vs Digital Supply Chains

Traditional supply chains are primarily static and operate according to historical transaction entries, regardless of delay times. In contrast, fully digital supply chains work in real-time, are dynamic, and adapt to changing circumstances. While traditional supply chains are linear, digital supply chains are networks.

Conventional supply chains are often based on stand-alone systems. In contrast, in digital supply chains, information from I.T. systems and O.T. (operational technology) systems are integrated into business systems to form a coherent picture of company processes. Digital assets include a range of raw material data such as requests for quotations for components or sub-assemblies; Draft drawings; Production specifications; Engineering change orders; Submissions for quality control from suppliers; Device Performance Submissions; Process Improvement Ideas; Collaboration tools for sharing information with suppliers and other stakeholders; Production reports, status updates and work tracking.

In a traditional supply chain, the demand signal is received from a retailer or intermediary via an RFQ (request for quote), order or purchase order. The demand signal comes from a strategic decision to launch a new product in a digital supply chain. In either case, the primary challenge is to correctly predict demand, which drives material planning and inventory decisions.

Much of the data required by digital supply chains has been collected over years of operation in "silos". From supplier quality control submissions to equipment performance submissions, there is no shortage of data gathered by manufacturers every day that could be useful if captured and analyzed differently. In many cases, this data is either never used or poorly utilized.

In some cases, there may be insufficient information from which to make an intelligent decision on some essential factor that would influence the demand of a product. In other cases, however, there is too much noise in the system resulting from duplicated efforts and inaccurate input data. In these instances, companies must focus their investments on new approaches to capture efficiencies and enable new productivity levels.

DIGITAL SUPPLY CHAIN RISKS

The digital supply chain will revolutionize business by driving vast improvements in operational efficiency and customer relations. Still, it also introduces a new cyber security risk that every organization must address during the design process.

The risks associated with connected devices -- computers, smartphones, tablets and wearables are well understood. However, as companies bring their operations into the internet age with interconnected sensors, software and machines on the shop floor, they need to consider the security implications of introducing IoT into their day-to-day operations.

One area of focus is cybersecurity for industrial control systems (ICS). ICS is used to monitor equipment on production floors; these machines were never connected to the Internet. They don't have the same kinds of protections as typical computers, which are being forced to become smarter, more interconnected and remotely accessible.

RISE IN ATTACKS

The potential for IoT-based cyberattacks is rising exponentially with the growing number of connected devices. According to research firm Gartner's forecast, there will be 26 billion related things by 2020 – up from 10 billion last year. The increased connectivity means increased vulnerability. For example, hackers can exploit vulnerabilities in cellular data networks or wireless internet connections between components on the shop floor to access sensitive company systems and information.

Ensuring strong cybersecurity protection can be a daunting task for any organization. It requires coordination across multiple complex system elements like protocols and communication methods (e.g., wired or wireless), software and embedded systems.

It is possible to harden the underlying hardware components of ICS, but this can require significant changes to both hardware (e.g., replacement of microcontrollers) and software (e.g., transitioning from Windows XP).

This could mean that organizations will need to replace legacy equipment or alter how they do business to meet security requirements, which could be very costly.

Relying on third parties isn't risk-free either. Vendors may not fully understand each customer's specific environment, so enterprises need to validate their partner solutions before implementation. This process must occur well before production begins because once machines are up and running, retrofitting them to improve cybersecurity can be time-consuming and expensive.

Well-meaning third parties may mean well, but their devices and applications could introduce security risks as IoT solutions proliferate. For example, hackers recently breached a cloud service used by an industrial control systems vendor to log into the ICS of one of its customers. This turned out to be a backdoor that allowed hackers unfettered access into that customer's machines, potentially exposing proprietary I.P. or sensitive personal information.

NUMBER ONE PROBLEM

The most basic phase in the design process is risk management. It is here where organizations should identify all potential threats from internal and external sources, assess risks associated with those threats and develop robust mitigation strategies for each risk deemed acceptable by stakeholders. In this way, all concerned are aligned in their understanding of the risk landscape.

However, one big potential problem with IoT is introducing new risks not previously considered by either organizations or customers. One of the most fundamental challenges for enterprises involved in IoT projects is understanding their security level to protect them from possible cyberattacks and whether current protection will meet regulatory requirements.

The increasing interconnectedness of operational technology (O.T.) environments is changing how manufacturers operate and compete, but many O.T. systems remain insecure. The U.S. Federal Bureau of Investigation says more than half of ICS networks had security vulnerabilities because they ran unsupported operating systems or did not have anti-virus software installed. Unsupported software may be hard to find since manufacturers may not announce when they support specific products.

O.S. and software updates can also introduce risk to O.T. networks because most makers of industrial control equipment do not support automatic patching or push updates directly to devices, which remain vulnerable until operators manually update them. For this reason, manufacturers should ensure that their design processes include customer input into the update process. They should also provide other ways to keep devices updated securely while minimizing disruption to operations.

NUMBER TWO PROBLEM

IoT security is mainly non-existent. Many organizations don't have experience securing IoT devices used in other verticals, so it's difficult to understand the threats involved with IoT deployments in their environment, much less defend themselves against them. One option is to work with their partners to put IoT security protocols in place.

While it may be possible to control what goes on within an external cloud, organizations must also implement policies and procedures that oversee all network traffic entering and leaving company premises. This would include wireless communication with devices outside of the production facility via Bluetooth or Wi-Fi, for example.

BEST PRACTICES ARE NECESSARY BUT NOT SUFFICIENT.

Companies should look for ways to minimize their vulnerabilities before being hacked or subject to other cyberattacks. For example, some O.T. networks use remote terminal units (RTUs) on the plant floor managed by a remote management system on a separate network. If this connection is breached, hackers could potentially gain access to corporate I.T. assets, including servers that contain personal information or other sensitive data.

The first step should be to determine the types of devices that connect to the network, discovering what IoT assets are in use, where they are located and their connection methods. Once this is known, organizations can implement security controls across all devices on existing networks. Establishing policies for all network users is crucial, as well as setting up authentication processes so only authorized personnel can access company systems and data remotely.

NUMBER THREE PROBLEM

IoT risks aren't just limited to cyberattacks. They can also affect product margins, contribute to operational problems or present safety hazards due to potential flaws in design, manufacturing or installation process. While there's no way to eliminate risk with any new technology, companies can do a better job at managing it by working with vendors and supply chain partners that have a proven track record of secure product development.

NUMBER FOUR PROBLEM

Many O.T. manufacturers lack adequate security awareness because they don't think about cyber threats like I.T. security pros or industrial operations experts. Some organizations may not realize their devices connect to the Internet at all. In other cases, business managers might assume that any potential problems can be dealt with later if something goes wrong. In many cases, however, the perceived cost of securing O.T. is much higher than in traditional I.T. environments or compared to the value of connected devices once they are in use.

NUMBER FIVE PROBLEM

I.T. plant floor deployments often rely on the same security controls used in traditional I.T. environments, which might not be sufficient for O.T. Hackers may have an easier time breaching corporate networks because they are accustomed to dealing with the same types of vulnerabilities and attacks typically found on I.T. networks.

While it is possible to secure O.T. through traditional measures like access control lists (ACLs), firewalls and intrusion detection systems (IDSes), companies must also consider age-old practices like 'security by obscurity when designing digital supply chain architectures. For example, if only a few buttons or touchpoints within a plant are connected to the Internet, hackers will know that these are possible entry points into larger systems managing critical operations. Therefore, manufacturers should consider ways in which IoT devices could be camouflaged or hidden from attackers, which would help prevent unauthorized access to the control system environment.

NUMBER SIX PROBLEM

IoT security problems can also stem from uncertified devices connected to critical systems. If IoT components, like sensors and wireless hubs, lack proper authorization for use in O.T. environments, hackers could exploit their vulnerabilities (i.e., weak passwords). The use of third-party technology should be carefully vetted by companies when choosing partners to supply these types of components to reduce risk exposure in the event they aren't properly vetted before being brought online in production networks.

NUMBER SEVEN PROBLEM

More than half of I.T. professionals surveyed recently say it is complex or tough to s through all the data collected by O.T. devices, primarily if generated at a high volume. If I.T. workers are overwhelmed by data or have difficulty identifying relevant information for analysis, they may not identify critical trends or issues that could affect overall plant performance.

NUMBER EIGHT PROBLEM

Physical security controls like door locks and video surveillance cameras can help protect sensitive O.T. networks from cyberattacks. By designating secure areas in which IoT devices are located (i.e., production floors) and limiting access points (e.g., physical ports through which sensors connect to the network) within these areas, enterprises can prevent unauthorized individuals from accessing company systems and data stored on connected devices.

One focus area is the potential for security problems in the IoT (IoT). Part of the real promise of the IoT lies in the so-called industrial IoT area, in which systems and machines exchange data via sensors and software that enable progress, such as predictive maintenance. Sensors can monitor the temperature of a device, its noise level or its vibrations.

EVOLUTION OF TRADITIONAL SCM

One focus area is the potential for security problems in the IoT (IoT). Part of the real promise of the IoT lies in the so-called industrial IoT area, in which systems and machines exchange data via sensors and software that enable progress, such as predictive maintenance. Sensors can monitor the temperature of a device, its noise level or its vibrations.

Recognize drivers: A genuinely digital supply chain is an opportunity to see, understand, and collaborate with the activities of multiple supply chain partners. You can also use various data to make predictions and take action faster than your competitors. You may want to locate your supply chain for resilience or manage many supplier relationships more closely. Or maybe you want an accurate overview of the product flows to meet service level agreements with customers or improve your network planning processes.

Identify your current state: This is where you need to understand what your current state looks like. You can start by walking through your warehouses, factories and suppliers to see the processes in action. Look at how products are stored and moved from supplier to warehouse and warehouse to customer. Perhaps you have strong visibility into some areas of your supply chain, but there are still black holes. Maybe you're already digitizing certain aspects of your supply chain with tools such as scanners or mobile devices.

Create a vision: Digitizing an entire supply chain won't happen overnight. It requires a clear picture that will evolve into a fully digital experience for the buyer and manufacturer alike. Once companies have an idea of their goal, they can take small steps that will eventually lead them there. The next step is to identify the ecosystem of partners your company needs to work with to make your vision a reality.

Select market initiatives: You'll likely need several digital initiatives in place before you achieve complete visibility into your supply chain. But it's important not to go overboard with technologies, projects and partnerships at one time; otherwise, you risk creating complexity instead of clarity. Pick your best bets for achieving maximum impact quickly, and then set obvious goals (metrics) for each initiative, so you know if you are successful or not.

Develop success criteria: Your customers probably already do many things digitally — for instance, they purchase products online and expect you to follow suit. But how will you know if your supply chain is working any differently? How will it sustain itself? How can you measure success or failure? Your success criteria should always answer these questions and help guide the user experience of every step in the process.

Create a roadmap: Now that you understand your initiatives, map out how all the pieces fit together over time. This roadmap should include both near-term (one year) and longer-term (three years) objectives to balance the need for quick wins with long-term transformation efforts. It's important not to get too caught up in the details. Some things may change more than anticipated but having a detailed plan shows stakeholders a clear path to executing your vision.

Build an action plan: Start by putting the initiatives into motion and then focus on building out the teams required to make them succeed. Be sure to include expertise in data management, I.T., procurement, finance and customer-facing roles like marketing or logistics. You'll also want experts who understand how each of the initiatives fits together so you can achieve maximum impact across multiple projects simultaneously.

Execute your plan: Now that all of these pieces are in place, it's time to execute! You must continue iterating based on end-user feedback; otherwise, you could be wasting time operating tools that aren't helpful or reflective of end-user wishes.

ESSENTIAL DIGITAL SUPPLY CHAIN METRICS

FUTURE OF DIGITAL SUPPLY CHAINS

"Supply chains are changing. Digital supply chain strategies are coming to the forefront, offering amazing potential to transform companies' operations. This transformation is already underway in manufacturing, retail, and several other industries."

Companies committed to excellence in supply chain execution which aims to optimize all available supply chain assets, control costs at each step and deliver items to customers on time and to specifications, should already be moving toward a digital strategy. In its report, McKinsey made an interesting observation, saying there is no practical way of the digital supply chain to provide a template for other organizations to follow. Companies may get stuck by fixating on a singular processor metric. Or, the project may become too IT-driven, solving problems that aren't readily apparent.

THE DIGITAL SUPPLY CHAIN JOURNEY IS JUST BEGINNING

How companies manage the digital supply chain journey will vary. The McKinsey report suggests three things that can help drive success: 1) Create options first to avoid committing too early without understanding what you want 2) Understand your end goal and then select a path 3) Keep an eye on how others are doing and learn from them. As the journey continues, it's essential to focus on both people and technology and monitor key performance indicators (KPIs). A successful process relies equally on people and technology. It includes data collection, analysis; collaboration; communication, decision making, and plans or actions.

There are four keys to success: 1) Agility, 2) Customer-centricity, 3) Decision optimization and 4) Innovation. As companies get started, they should look for options that improve agility across the supply chain. They also need to create a customer-centric digital strategy that considers opportunities for augmented intelligence and more while optimizing decision-making and focusing on delivering an outstanding customer experience.

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AN INSIGHT INTO CHANGING CUSTOMER TRENDS AND PREFERENCES IN ERA OF COVID-19

**Rashmi.S.Chaudhry **Rupali Arora*

**Research scholar, USB, Chandigarh University*

***Professor, USB, Chandigarh University*

INTRODUCTION

The year 2020 started with an event that would redefine the dynamics of socio-political, economic, and other human aspects of the environment for a long time to come. Coronavirus or pandemic COVID -19 as named by WHO (World Health Organization) a deadly virus that originated in China in December 2019. It disrupted human life in multiple ways. By end of May 2020 almost the entire world is impacted by it. It mainly infests as respiratory problems in infected humans. Transmits fast from an infected human with a mere sneeze or shaking of hands. This very nature of the disease has left almost the entire world in jeopardy within just five months. The severity of the problem led to WHO (World Health Organization) intervention which rendered a new nomenclature to the deadly virus COVID-19. The biggest health epidemic was termed as the most fatal pandemic of present times. According to WHO reports 4.53 million people are suffering from this disease all across the globe as on 16th May 2020, with more than 30.7 deaths (WHO.int).

Fig1: Spread of COVID-19 as on 24th April 2020

| | |
|----|--|
| 1. | More than 2.64 million reported confirmed cases |
| 2. | More than 184,600 deaths |
| 3. | More than 212 countries or territories with reported cases |
| 4. | More than 180 Countries or territories with local transmission |
| 5. | 81 countries or territories with more than 1000 reported cases |

Source: World Health Organization, John Hopkins University; CDC news report

COVID-19 has given the biggest challenge for survival in the recent history of human civilization. It has forced people everywhere in an era of indefinite fear and scare, for there are no vaccines or antibodies invented to fight the disease. Here is a disease that's claiming lacs of lives all around the world, but has no cure. This led to WHO advising measures to slow down the transmission of COVID-19. These measures were social distancing, staying at home, washing hands, wearing masks. This was followed by governments and administrations taking stern actions starting with lockdowns forcing people to stay at home, offices and all commercial complexes were closed, educational institutions were locked. Hotels and restaurants were temporarily shut. Factories and manufacturing units were asked to close operations. Transport and other service facilities were temporarily disabled. Airlines were banned. People could leave home only for emergency purposes that too with masks on. Videos highlighting the importance of frequently washing hands are one air through various media networks and channels. The extent and duration of measures vary according to regions of the world and the severity of the transmission. In India for example the first lockdown was announced on 25th March for three weeks, which was extended by another three weeks. Currently, India is in the lockdown 3.0 stage (May 12th, 2020). With the number of COVID-19 confirmed cases in India increased from a few hundred in the first lockdown to 85,940 as on 16th May, 20. Deaths mounting to 2752 and recovered cases being 30,153. (www.who.int). These numbers are multiplying rapidly with every passing day, increasing the possibility of stretching the lockdown to a few more weeks or maybe more.

It cannot be denied that Coronavirus or COVID-19 is the most serious health-related issue. But it has challenged life in many other ways as well. A healthy, disease-free environment is quintessential for survival, but with this, the economic means of earning, leading to purchase and consumption of goods and services is equally

important. People need to earn food for survival. This basic fundamental has been challenged in these last five months. While lockdowns have saved considerable people from the virus. Millions are dying of hunger and anxiety-induced disorders. Millions have lost their jobs, are forced to sit at home with no work or income. A large number of factories, manufacturing units, trading centers have been permanently closed.

II COVID – 19 & ECONOMIC FALLOUT

The lives of millions of people associated with the economy have been jeopardized in one or more ways. Asian Development Bank has predicted \$2 to \$4 trillion worth of loss to the Global economy. Mckinsey's research group has expected it to be as high as 6.5 trillion dollars. studies by these research group further fear a slow return to expected GDP of 2019, that would be not before 2021 and in some countries by 2022. Besides GDP, Corona Virus has affected the economy in many other ways:

- 1) **CHANGE IN WORK DYNAMICS:** An important consequence of the closing of offices due to lockdown is shifting of work to the home environment, bringing changes in communication patterns and work dynamics. Sectors such as information technology(IT) and IT-enabled sector(ITES).
- 2) **INCREASED UNEMPLOYMENT:** Depending upon the impact of COVID -19 ranging from low to medium to high 5- 25 million workers will lose their jobs across the world (Statista.com). Further, the number of unemployed would ascertain the speed of economic recovery.
- 3) **DEEP FINANCIAL CRISIS:** Debt amount in emerging markets have increased in many countries leading to a financial crisis. Even the advanced and developed economies such as the USA, Britain are facing the hardest recessions owing to stretched lockdowns, stalled production facilities, and reduced demand.
- 4) **SHIFT IN CUSTOMER PREFERENCES:** Reduced income, increasing unemployment rate, and homebound routines have immensely disrupted customer behaviour across all segments and demographics. Customers are concentrating on 'essentials' partly because resources are just enough for necessities and partly because essentials are all that are available.
- 5) **STAGGERING MASS DEMAND:** All the COVID-19 affected areas have witnessed extended Lockdowns imposed on commercial setups both organized such as offices, shops, malls, and unorganized such as street vendors. This has resulted in a large drain of income for masses causing a huge drop in mass demand.
- 6) **DISRUPTED SUPPLY CHAIN:** China the origin country of the Coronavirus or COVID-19 holds a strong global position in trade and logistic linkages with its worldwide network of intermediary goods. Factories and production being stalled in China affected this supply chain to other countries. Further with the fast spread of the virus to Europe and the U.S. Supply chain is immensely disrupted.
- 7) **STOCK MARKET FALL:** Market volatile index reflect the high cost of loans leading to reduced corporate investment and a further decline in GDP. Increased selling and high volatility in assets are negatively affecting the global stock market. Equity and debt market have seen a worse slowdown in the last decade.
- 8) **LOSS IN GOODS SECTOR:** Labour dependent industries such as apparel & textiles, construction have been substantially impacted. Pandemic has increased customer anxiety and inhibited purchase of non - essential products impacting sectors such as apparel& fashion and automobiles .(<https://home.kpmg/content/dam/kpmg/in/pdf/2020/04/potential-impact-of-COVID-19-on-the-indian-economy>).
- 9) **LOSS IN SERVICE SECTOR:** The tourism and hospitality sector is the worst hit due to COVID-19. Travel restrictions fear of contacting deadly virus has hit this sector hard. Even after the lockdown, the possibility of growth is expected to be gradual and very slow. The fear of contracting the virus will refrain people from the idea of traveling for vacations, leisure or even business trips. Reduced incomes would also become a major reason for the falling demand in the tourism and hospitality industry.

- 10) **REDUCED CUSTOMER CONFIDENCE:** Job layoffs, cut in salaries, reduced income will lead to reduced customer preference for non-essential and luxury good on one hand, the fear of being infected will keep the customers away from purchase activities and travel spree, recording an all-time low in customer confidence across the globe.

III. INDIA AND COVID-19

The first few cases of corona infected were found in February 2020. Early traces were discovered in people who had returned from foreign countries mainly, Italy, China. There are 84,940 cases as of 16th May, 20 and the number is increasing every day.

Fig2: No. of COVID -19 cases across India as on 16th May, 2020

| | |
|-----------------|--------|
| CONFIRMED CASES | 84,950 |
| ACTIVE | 52045 |
| RECOVERED | 30153 |
| DECEASED | 2752 |

Source: World Health Organization, John Hopkins University; CDC news report.

The number of COVID -19 infected patients are increasing at a high rate. A high density of population is a major reason for the fast spread of the virus in India. The highest number of cases are reported in the states of Maharashtra, Gujrat, Rajasthan, Andhra Pradesh, Telangana, Madhya Pradesh, and Delhi. The number of Covi-19 cases in these states is much greater than the national average. These states account for 33% of the Indian population and 41% of production output. (CRISIL Market research). Medical experts fear that worse is yet to be seen expecting the peak in June. Indian Government has imposed three stages of lockdown that is further expected to be extended till 31st May 2020. People across the country are staying their homes to protect themselves from the disease. The so-called normal life is put on a halt with one purpose that is to reduce speed of transmission of virus.

The middle class with sufficient savings and access to survival resources have and will manage to sail through with difficulties. The other important huge proportion is of more than 40 million migrant laborers who support the economy at the mass level by working as construction workers, daily wagers in farms, on roads, construction sites, as street vendors and other agricultural and industrial units. This huge number was forced to defy the lockdown, rush to highways and roads in an attempt to return to their homeland. Many of them earned their daily bread with no savings to sustain even temporary layoff, with lockdown, followed no work and no pay, consequently no rent to pay for accommodation. Starvation and lack of shelter became their bigger fear. This dismal situation once again brought into light the widening divide between the rich and the poor. The claims of social equality and justice once again appeared fake and superficial.

Pandemic COVID-19 has brought humongous human tragedy. Every segment and strata of society incurred losses, the extent of which will be known once and if it gets over. India has entered the fourth phase of lockdown on the 17th of May extended till 31st May. Few relaxations were made during the second phase of lockdown in certain regions depending on the number of cases of infection. Various districts across all states were divided into three zones- Red (Containment zones with maximum increase in Corona incidents for 21 days, needs complete isolation), orange (districts where the cases are decreasing everyday) and green (districts where no cases are reported for 21 days). [<https://timesofindia.indiatimes.com/india/coronavirus-health-ministry-designates-districts-into-red-orange-green-zones/articleshow/>] These relaxations are increased in lockdown 4.0 for green and orange zones. Many commercial activities such as sale of nonessential goods by both retail and online stores have been permitted for limited hours in a day in urban and rural areas. Few manufacturing projects have been resumed. Government offices and few private organizations in green zones will resume office. But educational institutes, transport, hotels and restaurants shall remain closed.

IV. IMPACT OF COVID-19 ON INDIAN ECONOMY

This era of COVID-19 is causing human suffering of immense proportion. But economic and financial repercussions have added to the existing concerns. Crisil's research has predicted a permanent loss of 4% GDP for the Indian economy. GDP growth has reduced from 7.9% in Q4 of 2015-16 to 4.5% in Q2 of 2019-

20(Ministry of statistics and programme implementation,24th March 2020).Fast spread of Coronavirus and extended lockdowns can further reduce this growth rate. This economic and financial recession is worse than the recession of 2008&2009. Another research by Acuite ratings fear that Indian economy will lose more than \$4.5 Billion every day of the lockdown.

Consumption the main contributor to the GDP (59%) is worse hit due to COVID-19. Long period average(LPA) growth is predicted for a steep fall for consumer discretionary services, products, staples and fast-moving consumer goods(FMCG).

Fig 3: LPA growth for consumption from Financial Year(FY) 2019 -2021.

| S.No | LPA in : | FY 2019 | FY 2020 | FY2021 |
|------|---------------------------------|---------|----------|----------------|
| 1. | Consumer discretionary services | 12%-14% | 3% | (-20%)- (-30%) |
| 2. | Consumer discretionary products | 12% | -4% | (-12%)- (-20%) |
| 3. | Consumer discretionary staples | 10-12% | 0% | (-2%) |
| 4. | FMCG | 12% | 1% (-3%) | (-3%) |

Source: Company Reports CRISIL RESEARCH

Besides consumption, COVID-19 has affected other sectors of Indian economy such as food and beverages that registered a decline in growth up to 10%,Machinery and equipment -25%,textiles and leather-12%,transport -9%,financial services-9%,real estate-29%,healthcare and education-3%.Other services-14%.The agricultural sector will suffer too due to disrupted supply chain, lack of transport facility and labour crunch. Production in the apparel sector is expected to reduce by 18-20% due to reduced global demand.(ITC trade map,25th March,2020).

.MSME(Medium & small and medium enterprises) contributes 35% to Indian GDP, with trade holding 36% share, manufacturing 31% and other services 33% ,the sector employs 14 million people. Lockdown resulted in halted production and operations leading to loss of jobs, decline in production. Resuming of work in this sector would not be easy owing to the return of migrant labour in huge numbers, non availability of supplies due to disrupted transport services and reduced corporate investment in the sector. Daily wagers or contractual workers will be affected with a huge number of layoffs. A study conducted by KPMG has predicted permanent closure of one -fourth of 75 million MSMEs due to extended lockdown and no market demand. MSMEs related to tourism and hotel industry and supply chain management have been majorly affected. The sector is fearing the loss of jobs to the extent of 38 million that is 70% of working population.(The Hindu,16 March,2020) Pandemic has had an encircling impact on Indian Economy, factory shutdowns have resulted in loss of income as well as loss in jobs that will have a long lasting impact on the health of economic environment.

Despite sharp increase in COVID-19 cases, Lockdown is being relaxed. Sustained lockdown will prove fatal for revival of economy that already is in a dismal state. Hence Indian Government has initiated the recovery phase, Which is also termed as post COVID phase. With disruption in the current status quo a new normal is being explored. To start the recovery process, the Government has extended the financial support of INR 20,00,000 crores through various schemes and programmes to help individuals and organizations affected by the pandemic.

The rate of success of this recovery phase will be determined by customer response to ‘new normal’. These customers have changed priorities and preferences, changed resources, changed shopping environments. Businesses for a restart will need to study these transformed preference patterns and new drivers of consumption.

V. 1. INSIGHT INTO CUSTOMER BEHAVIOUR IN COVID-19 PHASE

The biggest lockdown in the world has affected the life of 1.3 billion Indians. With lockdown 4.0 economy will be restarted with opening of various businesses and commercial centres. Economic environment is moving towards a new normal. This would be a new but a challenging normal with staggering demands, disrupted supply chains ,falling share prices and all time low customer confidence. Demand in all sectors has declined to all time low levels owing to following factors: (<https://www.statista.com/topics/6304/COVID-19-economic-impact-on-india>)

- Loss of 4% GDP in Indian economy.
- Increase in unemployment rate. Statista.com has expected an increase in unemployment rate from 6.6% in January,20 to 26.2 % by end of May,20.
- Reduced household income: Households with reduced income increased from 8.8% in Feb,20 to 43.7% in April,20.
- Reduced mobility : Insisting people to stay at home for more than 50 days has resulted in reduced mobility of individuals in retail and recreation by 80%,work place mobility by 64% , parks by 52%.

V.2. COVID-19 AND SHIFT IN CUSTOMER TRENDS

Infectious nature of Coronavirus and its fast transmission has drifted people towards an indefinite period of fear, forcing people to 'stay home'. Lockdowns being mandatory to curb the transmission of virus, there are millions across the world who are afraid to step out of home resulting in many new customer trends . Customer focus is limited to essential goods such as home staples ,groceries, medicines and entertainment for some strata. 'Low touch points' ,social distancing are new terms for conducting businesses.

1) **INCREASED SALE OF HYGIENE PRODUCTS:** Face masks, sanitizers and hand wash became the most sought after products. Sale of hand sanitizers grew by 300% in March,20. There was a sharp increase in sale of over the counter immunity boosting products ([https:// www .livemint.com /news/india/coronavirus-indians-buying-more-personal-and-home-hygiene-goods-11584156577607.html](https://www.livemint.com/news/india/coronavirus-indians-buying-more-personal-and-home-hygiene-goods-11584156577607.html) Sale of respiratory drugs grew by 22 % .

2) **SHIFT IN HOUSEHOLD CUSTOMER HABITS:** With people limited to homes and ban on sale of non-essential commodities, shifted their buying patterns to essential home supplies such as grocery , hygiene products, medicines. Even routine customer habits have undergone a paradigm shift. Habit of reading newspapers is replaced by news apps and e-papers, Eating out in restaurants and food courts is not an option that will not be considered for a long time , delivering food for these places is also banned and even if permitted will take long to achieve pre-COVID-19 status. A survey conducted by research firm local circles found that 87% of Customers would avoid eating out, mainly due to fear of contracting the virus and apprehension in spending on outside eating.

(<https://retail.economictimes.indiatimes.com/news/food-entertainment/food-services/74-say-will-not-visit-restaurants-even-if-open-local-circles/75861764>). Local gatherings and parties are no more there owing to social distancing norms. Travel has only memories refreshed through social media networks, even official trips are on the list of abandoned activities. Sale of important electronic gadgets gained some impetus owing to work from home requirements, and online classes.

3) **SHIFT IN CUSTOMER ENGAGEMENT ACTIVITIES:** More than 55 days of lockdown forced people in boundaries of their homes, apart from work from home other activities that Indians are engaging in are household chores, movies on OTT platforms, home fitness regime, social media challenges, DIY at-home projects. These changed patterns of activities have resulted in changed market dynamics. User base of OTT platforms such as Netflix, Hotstar, Amazon Prime increased by 20-25 % by the end of April,20. .61% increase in website visitors for entertainment and news related content. With closing down of gyms and educational institutions the adoption and usage of online content related to fitness regimes through yoga, Zumba exercises have increased. Online classes such as Byjus, Unacademy, Upgrad, Vedantu have registered high growth of users.

(<https://www.livemint.com/news/india/COVID-19-streaming-services-bet-on-higher-viewership-as-people-stay-indoor-11584591454428.html>) .

4) **INCREASED ADOPTION OF E-COMMERCE:** Though there has been unprecedented growth in e-commerce in Indian market, still substantial inclination is observed for neighborhood kirana stores. COVID-19 has brought a few changes in this regard. Low contact, masked appearance and social distancing are some of the new expectations of the customers, resulting in growth of e-commerce. Number of First time users(FTUs) in this period have considerably increased. Adoption of online payment gateways for

mobile recharges, bill payments, increased in last couple of months.. With Paytm(33%), Google pay(14%) and Amazon pay(10%)(occupying maximum share among other bank UPIs(user payment interface).[https://www.statista. com/topics/6304/COVID-19-economic-impact-on-india].Users of digital banking have increased over last couple of months. Adoption of e-commerce has affected B2B, B2C, C2B segments.

Three main online grocery sellers in India-Bigbasket, Gofers and Amazon experienced steep rise in sales during initial days of lockdown. Responding to Government guidelines many online sellers such as Amazon are shifting their supply chain capacities to high priority essential commodities such as household grocery items, packaged food, health care, hygiene, personal safety. It has temporarily stopped accepting orders for non- essential products. (https: // retail .economic times .indiatimes.com/re-ales/impact-of-COVID-19-on-online-shopping-in-india/4115). Social media platforms and online entertainment networks such as Netflix, hotstar, Viacom are experiencing high growths owing to increased viewership from ‘Stay at home customers’

- 5) **EMPATHETIC ENGAGEMENT BY E-COMMERCE COMPANIES:** E-commerce companies dealing in other categories such as apparel and fashion segments will have to wait to see the customer response as sale of non-essential items is banned through physical and online channels. Food delivery apps such as Swiggy and Zomato experienced slow customer acceptance during the initial duration of Lockdown in March.These Apps published useful Coronavirus related information for the benefit of general public. later took initiative in partnership with FMCG companies to deliver groceries. This helped in improving their customer ratings as surveyed by YuGovs brand index. Positive ranking of these online firms increased substantially.

Fig 4: Consumers view Delivery Apps’COVID-19 response positively

| | Heard something positive | | Had a good brand impression | |
|-------------------|--------------------------|---------------|-----------------------------|---------------|
| | March 15,2020 | April 16,2020 | March 15,2020 | April 16,2020 |
| Food delivery App | | | | |
| ZOMATO | 47.5 | 50.6 | 57.4 | 58.9 |
| SWIGGY | 50.6 | 51.0 | 60.1 | 62.2 |

Source: Statista.com You Gov.in

Myntra, Tata cliq, are other examples of online sellers indulging in *empathetic engagement* (https://www.forbes.com/sites/danielnewman/2020/04/19/3-key-considerations-for-managing-customer-experience-during-COVID-19/#5380ec615995. These sites besides launching various awareness programmes, collaborated with NGOs to collect fund for social causes and help of deprived and poor. They also launched recipes for engaging customers and had launched many games to keep home locked Indians busy. Use of online channels for buying and selling will affect the business terms even in post -COVID era.

- 6) **SHIFT IN RETAIL ORDER:** Retail contributes 10% to the GDP and accounts for 8% of employees engaged in the sector. (Retail sector overview; FICCI.20th March,2020). COVID-19 has two clear customer requirements first low contact points and second limited purchase capacity owing to temporary layoffs. Transition from physical retail interactions towards omnichannel digital channels will impact customer journeys at one or more points. Retail needs to address personalized engagements even in low priority segments.
- 7) **SHIFT IN EDUCATION AND SKILLING PREFERENCES:** COVID -19 has changed the way learning is imparted. Schools , colleges, coaching and all other educational institutions have been locked to curb the transmission of virus. This has led to the use of virtual platforms in this domain. A government-led initiative such as Diksha launched through television for school students, digital library storing lacs of text books and reference books for school and college students. The intervention of other players such as Vedantu, Bygus, Un-academy, and many others are used to reach lacs of students across the nation. Virtual classrooms such as Zoom, Google meet, Microsoft team are extensively used to compensate school teaching and other educational institutions for completing the syllabi.(<https://homekpmg/content/dam/kpmg/in/pdf/2020/04/potential-impact-of-COVID-19-on-the-indian-economy>). COVID-19 has raised

the demand of skills related to programming and coding, as some of these shifts will stay in post COVID-19 world.

VI. LOW CONTACT, CUSTOMER-CENTRIC APPROACH TO BUSINESS IN POST COVID-19 PHASE

After almost a year of spread of pandemic, the number of COVID-19 cases in India is on a sharp rise, increasing the probability of further lockdown. There are varied opinions on the disease from medical and political experts. In the absence of a vaccine or antibodies, social distancing, sanitizers are not proving effective in reducing the transmission of viruses. Experts have started advising ways to live with Coronavirus or COVID-19, it is here to stay. The side effects of lockdown such as low incomes and sick economy are adding to existing human troubles. The success of this restart process depends on customer response to the new endeavours of 'new normal' of post-COVID -19 era. Cash crunch is a big limitation for boosting customer demand.

There are other factors too, that need the attention of businesses to restart. Customer requirements and expectations should be a major input for framing strategies for restart. A shift in customer preferences will guide designing the buying spaces and logistic channels.

Mckinsey research in its research report titled 'Beyond contactless operations: Human-centred customer experience' has suggested a data based approached IDEA that can be used to ensure a safe and secure buying experience to customers as the spread of the pandemic is on a rise, customers will prefer companies and buying spaces with low contact points to avoid the virus. This is a four step strategy that defines new expectations through all the stages of customer journeys.

- i) Identify interactions (I): Interactions in value chain need to be identified in internal (employees and staff) and external (customers and public) environment. The interactions involving high proximity such as banking, healthcare are high risk interactions that require digital intervention to reduce the contact and mitigate the risk.
- ii) Diagnosing the risk (D): Potential risks concerning Coronavirus are associated with one or multiple interactions among employees or customers and employees. The same products may be touched by staff involved in packing or delivering the goods at the stage of transfer of goods. Risk is involved in employees engaged with same services or delivering same services.
- iii) Executing the solutions (E): Technological innovations can be used to provide contactless interactions. Use of Artificial intelligence, robotics and machine learning can be applied to wide areas including retail and buying spaces. For example, banks can invest increased focus on digital banking to reduce the frequency of visit of customers to banks for routine functions. These solutions require the collaboration of cross-functional teams to address the concerns at multiple levels.
- iv) Adapt (A): The environment amidst COVID-19 is dynamic, it presents new challenges with passing time. Hence the devised solutions have to be continually improvised and adjusted to these changes. This can be attained through effective management systems, collaborative responsibility, proactive response to consistent customer feedback. Low touch points will reduce human interactions making empathetic engagement another challenge.

The businesses and companies that can enforce customer centric strategies with safety and security at the core and are empathetic in execution will succeed in the 'new normal' post COVID world.

CONCLUSION

India is taking intermittent steps towards the 'new normal'. Number of corona cases are on a sharp rise. Amidst the existing fear of transmission there exists a bigger concern for earn to survive. Savings have started to exhaust forcing people to defy the lockdown. Small businesses, daily wagers, street vendors are looking for work to earn money for survival. Economy is partially put to a start. Businesses have started functioning with safety measures such as use of sanitizers, masks. Non -essential goods and services have devised ways to restart business.

Schools, colleges, educational institutions are not opening in near future. Hotels are still out of business. Restaurants are open only for take away orders. The execution of financial assistance schemes is questionable owing to corrupt practices depriving the needy from cash and much required resources. Hence mass demand might take long than expected to rise. The crisis is too deep and the rippling effect will only add to the misery. Like rest of the world, India awaits vaccine to end COVID-19. Till then the nation will battle with the pandemic COVID-19.

COVID-19 has witnessed a paradigm shift in customer preferences across all sectors and domains. A larger part of these transitions will shape the way business will be conducted in Post COVID era. Insight into these shifts is essential to guide the businesses and managements towards successful customer experiences.

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