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A Study On Customer Preference For Fly Ash Bricks

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Vol. 10 No.2 July 2023
ISSN No. 2394-4013

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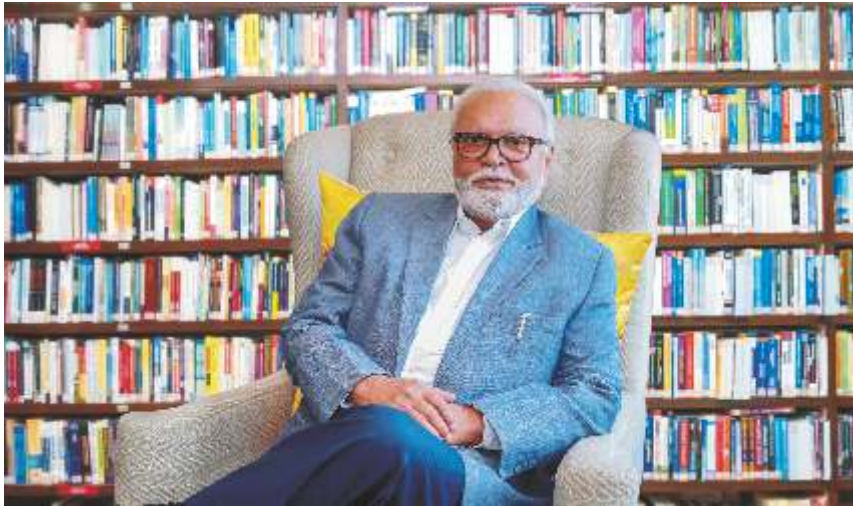
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Dr. Swati Lodha
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This issue comprises selected research papers presented during the International Research Conference organized on April 28th & 29th, 2023 at METIOM Campus in collaboration with the Department of Commerce, University of Mumbai. These papers explore and suggest various digital transformation in business accommodating the shifting consumer expectations and behaviour.

Prof. (Dr.) Sangeeta N. Pawar, Professor & Head of Commerce Department, University of Mumbai, in her inaugural address stressed that the MBA students should focus on garnering actionable insights with the help of emerging technological tools.

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Dr. Swati Lodha

Director

MET Institute of Management



Consumer Attitudes Towards using Digital Assistants in Online Shopping

Geeta Devi - Assistant Professor, Maharaja Agrasen University

ABSTRACT

Consumers' shopping habits have undergone a significant shift in the past decade. Although people still shop in physical stores, they find online shopping to be very convenient because they don't have to physically go to the store. Making choices and evaluating prices against those of competitors' products can be done comfortably and at home. The retail industry's advertising, sales, and delivery channels have changed as a result of the widespread use of the internet. Online retailers are currently spending a lot of money to expand their sales capabilities and handle a wider variety of transactions. Digital assistants are now available to offer customers text-based and voice-driven interfaces that are specifically tailored to their needs. This enables e-retailers to better support their online customers by creating a marketing strategy that will draw in potential customers and turn them into active customers by effectively incentivizing them to make a purchase decision. To gain a competitive edge in online shopping, it is necessary to analyse consumer attitudes towards digital assistants. This study emphasises consumer attitudes towards digital assistants when they shop online.

Keywords: Online Shopping, Digital Assistant, E-Commerce

1. Introduction

Our daily lives have been significantly impacted by technology. Nowadays, we have easy access to the internet via smartphones and other portable devices, which has increased the popularity of online services and commerce. The internet has grown exponentially and gained power as a result of improved advanced technology networks. We were all aware of the potential of the internet before, but now we are actually using it. The internet and digitization have played a significant role in the internet's and technology's remarkable evolution. Technology today has greatly improved every aspect of society, including the business sector. The rise of eCommerce can be attributed to technological advancement. Ecommerce started a revolution, gained popularity quickly, and is probably going to have a big impact on business.

Conversational Marketing

What is conversational marketing and which job do informing applications like WhatsApp play in this recent fad? It's anything but a balanced center, not-to-many. Conversational advertising is, at its center, more like a discussion with a companion or reference as opposed to conversing with a group of people. The thought is that it's anything but an alternate method to impart than how we do with enormous gatherings. Conversational promoting is tied in with making accessibility to speak with prospects, when they're

willing to talk. Conversational marketing is a blend framework: it incorporates both AI scripts that help chatbots to respond genuinely to customers, yet it also incorporates continuous conversations between your customers and human gathering. As these chatbots can collect data, customers will need to understand how your organization sets and uses the information you get during your conversational marketing chats.

Digital Assistants and Chatbots

A digital assistant, also referred to as a predictive chatbot, is a sophisticated computer programme that mimics conversations with its users, usually online and offer a personalised, conversational experience by combining machine learning, advanced artificial intelligence, and natural language processing. Digital assistants can provide complex answers, suggestions, predictions, and even start conversations by learning about a user's past, preferences, and other information. Computer programmes called chatbots simulate and process spoken or written human communication so that users of digital devices can converse with them as if they were speaking to a real person. It's simple to mistake chatbots for digital assistants, but a chatbot that can handle more complex interactions naturally is what a digital assistant is. The primary form of communication with a chatbot is text. Chatbots can mimic a conversation with a human user. For basic questions and to connect with a live person if needed, many businesses use them in the

customer service industry.

Voice Assistants

A voice assistant is a digital assistant that uses voice recognition, speech synthesis, and natural language processing (NLP). Voice assistants are used by many of the devices we use every day, such as smart speakers and smartphones, which both contain them. Both mobile operating systems and apps make use of them. Additionally, some technology can be controlled by voices in retail, educational, healthcare, and telecommunications settings as well as in cars.

Role of Digital Assistants

Different digital assistants have different skills. A digital assistant gathers information from various sources and contextualises it. It can process what you say or type thanks to advanced natural language processing. With the help of sophisticated natural language understanding (NLU), it can analyze what you say or type and then produce precise responses. A multipart request or question can be broken down into its component parts by advanced NLU, which can then return an accurate response. The more sophisticated digital assistants can handle multiple tasks and complex questions and converse with you in an understandable manner. These digital assistants understand and learn your preferences based on your previous actions using AI and machine learning.

2. Review of Literature

Francis *et al.* (2021) despite the fact that numerous services were accessible, there was still more work to be done to improve the usability of these systems. The challenges that have yet to be resolved in this discipline include speech recognition, contextual comprehension, and human interaction. Balakrishnan *et al.* (2021) observed that in order to create a positive attitude and purchase intention through digital assistants, Technology and AI factors are playing an important role. Anthropomorphism plays a prominent role in forming a more positive attitude and purchase intention. Davenport *et al.* (2020) observed that policy related to data privacy requires balancing two competing priorities. Too little protection means that customers may not adopt AI-related applications; too much regulation may strangle innovation. Javaid & Hammad (2020) observed that now a days, artificial intelligence is used to enhance the efficacy, effectiveness and profitability of a company. Artificial Intelligence helps the companies to produce prophetic model to find the relevant product for the customers. A

company can also transfer the data from manual to digital medium on urgent basis. Rese *et al.* (2020) in his study revealed that chatbots allow humans to pose shopping-related questions and receive answers in natural language without waiting for a salesperson or using other automated communication forms. Whereas privacy concerns and the immaturity of the technology had a negative effect on usage intention and frequency. Soni & V. D. (2020) found that Artificial Intelligence can help people excel in their high sales and customer relationships in the ecommerce business, day by day people are getting more drawn towards it. AI is one of the smartest way to understand the needs and expectations of the customers and this is why e commerce companies prefer to use Artificial Intelligence for their marketing. Priscilla *et al.* (2018) in their study found Natural Language Processing depicts the interaction between humans and robots. Some research has shown that chatbots with a female voice are more effective than male ones due to the wider perception that women are friendlier. Daniel (2018) in their study revealed that voice interface provides efficient input of information, efficient output of information is less in comparison to visual commerce channels, particularly in high-complexity situations. The fortes of increased input efficiency and multi-tasking opportunities should therefore be restricted by intricacy of the transaction. Schlicht (2018) in their study revealed that CC adds several new heights compared to today's way of shopping and interacting online. The interaction between parties, e.g. buyer and seller, will contain a greater amount of animations than before. Also, CC will eliminate the several steps that are needed to complete a session or an action such as shopping, customer support etc. Wilson & Clarke (2018) in their study observed that people are tended towards the social media now a days, everything is available for transaction online. Brandtzaeg & Folstad (2017) in their study highlighted that the motivational factor for using conversational agent is "productivity". Chatbots help users to get appropriate and efficient assistance or information. Chatbot users also described motivations relating to social, relational and entertainment factors, and curiosity about what they view as a unique phenomenon. Hwang & Seo (2016) suggested that companies need to adopt a comprehensively coordinated strategy to making a paramount involvement with which multidimensional worth can be conveyed through different, consecutive phases of involvement. The co-production of involvement can prompt a practical encounter that can be life changing or viewpoint

changing. Luger & Sellen (2016) in their study highlighted that Voice Commerce systems involve artificial intelligence (AI, speech synthesis, recommender systems, intent recognition, and natural language processing (NLP) technologies. Rzepka *et al.* (2021) shown in their study Speech has more perceived efficiency, lower cognitive effort, higher enjoyment, and higher service satisfaction than text-based engagement, and these impacts are dependent on the task's goal-directedness, according to the study. These findings apply task-technology fit theory to consumers' preferred interaction modes and provide guidance to practitioners on how to deploy virtual assistants for information retrieval tasks. Følstad *et al.* (2021) emphasized in their study that Customer service, health, education, and job support are all areas where chatbots are becoming increasingly significant gateways to digital services and information. However, there is a scarcity of information about the influence of chatbots on individuals, groups, and society. Furthermore, before the full potential of chatbots can be achieved, a number of difficulties must be overcome. Bhambre *et al.* (2020) in their findings concluded that a personal digital assistant system is built for normal persons as well as blind and visually handicapped people who get information via audio. It is able to send and receive emails, get daily news and weather forecasts, set reminders, alarms, and create to-do lists with this system. Singh, G. (n.d.). 2022 highlighted the offline market is being phased out in favor of the online market. Customers are increasingly using online platforms to make retail purchasing decisions and interact with companies about their issues. Chat and messaging are increasingly gaining popularity as tools to communicate with company stakeholders. Milhorat *et al.* (2014) in their work emphasize the need of dialogue models to be simple and promptly adjustable in order to make a system really adaptive as well as versatile. Preez *et al.* (2009) found in their study that the web-based bot delivers personalised user responses aligned to the intended character by adding an artificial brain. Questions not comprehended by the bot are processed by a third-party expert system (an online intelligent research assistant), and the response is archived, enhancing the artificial brain's skills for future response generation. Conversational commerce uses artificial intelligence to automate retail transactions and payments using chatbots, texting, and digital voice assistants. The practice of Behavioral Targeting has emerged as a new tool for advertisers to effectively track online consumers and deliver targeted

advertising offerings to them. BT allows online advertisers to increase the effectiveness of advertising campaigns and play an important role in online advertising Yan *et al.* (2009). Consumers use social media activities and share a wide variety of user-generated content (UGC) and interact in two-way relationships with online products with other consumers in the market. Broniarczyk & Griffin (2014) Consumers feel strongly about the personal information they collect and use online. Product reputation influences the relationship between the beliefs of trust and value, and the willingness to give. Consumers are not influenced by the presence of a promise or incentive. Doig (2015). Web based shopping assists the clients with getting a wide scope of item and they additionally alludes that it assists with upgrading the relationship with the organization. It requires some investment to buy any item and it additionally assists the clients with purchasing more item than the customary organization. (Mascarenhas, 2018). Security has been seen as the main part in development of the online client experience, online retailers need to work in making secure electronic shopping experience for purchasers. Systems, for example, significant degree of encryption alongside advanced mark can be utilized to accomplish got exchanges (Kim, Yang, and Jun, 2004). Productive client complaints dealing with system, great return and trade strategy, pay to clients in the event that they bring about any misfortunes are a portion of the methodologies embraced by e-retailers to build the fulfillment of their clients (Karimov and Brengman, 2014). Security; data quality; installment mode; client care; quality and combination have a huge beneficial outcome on buyer fulfillment. For better online shopping experience a secure online platform should be provided and to reduce customer skepticism and privacy concerns strong security measures should be adopted by online retailers with higher encryption. (Jain, D. R., 2020). Internet business shopping offers best cost or least value, great nature of items, client well disposed interface, entryway step on time conveyance, simple returns and trade and so on and these are the components which aggregately improve the client experience and when the experience is acceptable then it prompts fulfillment. (Hussain, T., and Gour, S. 2020). Chatbots are more advantageous than calling, on the grounds that occasionally individuals talk with an indistinct complement and the client support can't help them. Security is significant for most clients particularly when the chatbot handles financial information. Openness must be considered while carrying out chatbots.

Telegrams, WhatsApp and Facebook Messenger are largely instances of informing applications that individuals use on an every day base to discussion with companions, association with brands, settling on decisions, content promoting, buying and selling of products, and in any event, for booking of a restaurant. These are only a couple of the huge loads of highlights that it is feasible to do with informing applications these days. The advertisers use applications like Telegrams, Facebook, Whatsapp and so on to give customer assistance, convey content to clients, and promote just as to sell items. (Chi, 2017). Client experience (CE) is "the evolvement of an individual's sensorial, full of feeling, intellectual, social, and conduct reactions to a firm or brand by living through an excursion of touchpoints along prepurchase, buy, and postpurchase circumstances and ceaselessly making a decision about this excursion against reaction edges of co-happening encounters in an individual's connected climate" (Homburg, Jozić, and Kuehnl, 2017). IVR (Interactive Voice Response) frameworks are another kind of exchange framework that permit a PC to interface with people thought the utilization of voice through a keypad (Radziwill, 2017). It is feasible to discover distinctive normal language cooperation with conversational specialists. That is, these days correspondence happens through advanced advances instead of face to face. Thusly, PC intervened correspondence (CMC) has become a basic space of examination to investigate human regular language recreation (Hill, et al., 2015). Shoppers don't have to burn through their time hanging tight for a human specialist replying. Shoppers don't have a fixed schedule that should follow to speak with the brand. In this way, another significant assignment identified with chatbots is client assistance every minute of every day accessibility. Shoppers can communicate their questions and pose inquiry at whatever point without the sensation of holding up minutes to be associated with the primary administrator accessible to reply (Schlicht, 2016). Web based shopping assists the clients with getting a wide scope of item and they additionally alludes that it assists with upgrading the relationship with the organization. It requires some investment to buys any item and it additionally assists the clients with purchasing more item than the customary organization. (Mascarenhas, 2018). Security has been seen as the main part in development of the online client experience, online retailers need to work in making secure electronic shopping experience for purchasers. Systems, for example, significant degree of encryption alongside

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The main objective of the study is to know the customer attitude towards the use of digital assistants in online shopping.

3. Research Methodology

Primary data was collected after interviewing 120 respondents. Generation Z and purposive sampling was used for collection of data. Secondary data was collected from recent research papers, articles from various reputed journals and websites.

4. Findings of the Study

Digital assistants would be specific about product details, according to the respondents. False messages should not be delivered to customers. When placing an order and paying through secure payment gateways, more security should be offered. Real-time images and accurate product descriptions must be provided by businesses. Customers should take their time getting acquainted with complex products like computers, laptops, refrigerators, washing machines, TVs, music systems, and cars. In order to confirm the high-involvement products' dependability, quality, and various other aspects, they should also visit the

store and physically inspect them. Customers' search terms should be more individually tailored. Live chat should be available to them. Fees for shipping and delivery must be decreased. To use digital assistants, users must acquire specific skills. Chatbot usage must be explained to prospective customers from remote locations. Delivery services should also reach remote areas. Reservations made online should be made simpler. For potential customers, more amenities and features could be added. The absence of augmented reality disappointed customers. The customers would have access to the augmented reality feature. After the purchase, customer experience must be taken into account using CX strategies like customer journey mapping and sophisticated strategies like creating customer rooms. Digital assistants can improve online shopping by raising customer awareness of and trust in online payments.

5. Conclusion

Conversational commerce has recently revolutionised online commerce on a global scale. The personalised experience that customers long for when making online purchases of goods and services has been made possible by this new interactive way of shopping and interacting with brands. Conversational commerce is becoming better and better each year thanks to new technologies. Investing in the right technologies is the way to go if businesses want to expand and develop a devoted customer base. An effective effort should be made to raise overall customer satisfaction among online retailers, as this can improve the shopping experience for customers.

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A Study on Effectiveness of Recruitment Process

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ABSTRACT

Humans are the building blocks of any business today and their selection and placement is critical for a company's success. This research aims to assist Human Resources and management personnel to better select, develop and care for their staff. By utilizing a dynamic recruitment strategy, businesses can ensure that their employees are placed correctly to drive efficiency and growth. This study is basically to understand and analyze the effectiveness of the recruitment and its process with organizational support for the better aid of knowledge. Better recruitment strategies result in improving organizational outcomes. The main objective is to identify the level of satisfaction about the recruitment process. The research methodology applied to the exploratory method. The sample size was 110. The data was collected through well structured questionnaires. The source of data was both primary and secondary. Data analysis has been done with the help of SPSS software. Most of the respondents mentioned company portals as the most important medium for hiring employees. This study seeks to evaluate the effectiveness of recruitment processes and organizational support in terms of knowledge acquisition. To this end, researchers have explored the relationship between demographic factors and individual factors by using statistical tools such as Percentage Analysis, weighted average method, chi-square. The findings of this research could provide valuable insight for organizations in terms of recruitment and its impact on knowledge acquisition. This study sought to evaluate the effectiveness of recruitment processes in organizations. With a highly competitive job market, these organizations must ensure that they are utilizing the best practices for recruiting and selecting qualified and capable employees.

Keywords: Effectiveness, Employees, Organization, Recruitment process, Strategy.

1. Introduction

Organizational psychology concepts have been utilized to shape the way organizations view their workforce capacity, often referring to it as 'human resources'. The individuals comprising an organization's workforce are seen as a valuable asset and their collective efforts are essential in order to achieve the organization's strategies. Human Resources may set strategies and develop policies, standards, systems, and processes that implement these strategies in a whole range of areas. The following are typical of a wide range of organizations: Recruitment, selection, and outsourcing, organizational design and development, business transformation and change management, performance, conduct and behavior management, industrial and employee relations, Human resources workforce analysis, compensation, rewards, and benefits management, training and development. Recruitment forms a major part of an organization's

overall resourcing strategies, which identify and secure people needed for the organization to survive and succeed in the short to medium-term. Recruitment initiatives must be constantly updated to stay ahead of the competition and ensure that the best candidates are sourced both internally and externally. These efforts must be structured to provide the most suitable and capable recruits at all levels. The recruitment process is essential to identify, attract and select the right people for positions in the organization. This is achieved through engaging, assessing and on boarding talent. Depending on the size and culture of the organization, recruitment could be conducted internally by hiring managers, human resource professionals and recruitment specialists. Recruiting is the act of attracting, engaging, assessing, and on boarding talent for work. Depending on the size and culture of the organization, recruitment may be undertaken in house by hiring managers, human resource professionals and

recruitment specialists. Recruitment refers to the process of attracting, screening, and selecting qualified people for a job at an organization. Recruitment is defined as, "the process of searching for prospective employees and stimulating them to apply for jobs in the organization". - Edwin B. Flippo
 An effective recruitment process looks at both internal and external candidates. The Organization will not make the easier choice of hiring a less appropriate person simply because they are an internal candidate. Encourage current employees to recommend people for the job.

Recruitment Process



Importance of Recruitment:

Recruiting staff is a very costly exercise. It is also an essential part of any business and it pays to do it properly. When organizations choose the right people for the job, train them well and treat them appropriately, these people not only produce good results but also tend to stay with the organization longer. An organization may have all of the latest technology and the best physical resources, but if it does not have the right people it will struggle to achieve the required outcome.

Types of Recruitment:

1. Internal recruiting
2. External recruiting

Internal Recruitment:

It is a recruitment which takes place within the concern or organization. Internal sources of

recruitment are readily available to an organization. Internal sources are primarily three - Transfers, promotions, and Re-employment of ex-employees. Reemployment of ex-employees is one of the internal sources of recruitment in which employees can be invited and appointed to fill vacancies in the concern. There are situations when ex-employees provide unsolicited applications also.

External Recruitment

External sources of recruitment have to be solicited from outside the organization. External sources are external to a concern. But it involves a lot of time and money. The external sources of recruitment include - Employment at the factory gate, advertisements, employment exchanges, employment agencies, educational institutes, labour contractors, recommendations etc.

2. Review of Literature

According to Neeraj (2012), selection involves identifying individuals with relevant qualifications to fill job vacancies in an organization. The significance of selecting the appropriate employees can be attributed to three main factors: performance, costs, and legal obligations. In the view of Florae (2014), the advantages and disadvantages of utilizing recruitment agencies for a company are comparable to those of external recruitment sources, which include access to qualified personnel, a broader selection of candidates, the potential for discovering fresh talent, and fostering a competitive environment among candidates. Olatunji and Ugoji (2013) in their study of personnel recruitment on organizational development. Adeyemi et. al (2015) also opined that employees should all be treated fairly in the recruitment and selection process and be appraised constantly to ensure that they improve their performance. In their study on the influence of recruitment and selection criteria on organizational performance, Ekwoaba, Ikeje, and Ufoma (2015) found that the use of appropriate recruitment and selection criteria has a noteworthy impact on organizational performance. Moreover, their study suggests that the more objective the recruitment and selection criteria, the more likely the organization is to achieve superior performance outcomes. Mustapha et.al (2013) opined that the aim of recruitment goes beyond mere filling of vacancies to include individual development and achievement and building a strong organization where effective teamwork and the individual's needs are realized at the same time. According to Stephen, Cowgill, Hoffman, and

Housman's (2013) study, employee referrals have a positive impact on monitoring and coaching, and can contribute to a more pleasant work environment due to the increased likelihood of working alongside friends. The study also suggests that employees tend to refer individuals who share similar traits and behaviors, resulting in a workforce that is not only similar in characteristics but also in conduct. Gilbert, De Winnie, & Seals, 2011, says Intended practices are developed by the policymakers of the organization so as to accomplish the desired attitudes and behaviours. Compton, Morrissey, Nankervis 2014, says Getting recruitment and selection processes and techniques right the first time is crucial and is the product of human resource planning, job design, human resource development, remuneration systems, career and succession plans to satisfy and motivate qualified applicants (Compton, Morrissey, Nankervis 2014). As Mullins, Gill (2010, p 485) says that if the HRM function is to remain effective, there must be consistently good levels of teamwork, plus ongoing cooperation and consultation between line managers and the HR manager. Ntiamoah et al., p. 4, 2014 say that recruitment and selection have become ever more important as organizations increasingly regard their workforce as a source of competitive advantage. Nartey, 2012 says recruitment and selection process should be done at each and every sector for fulfilling their organizational goals. Absar (2012) says the importance of recruitment and selection in his paper by considering both public and private manufacturing firms.

3. Statement of Problem

Recruiting and selecting the right talent is a costly yet essential investment for any business. Taking the time to ensure all steps of the recruitment and selection process are followed correctly will pay dividends, as the right people will be chosen and retained for longer, leading to a higher return on investment through the better results they can produce. Treating employees appropriately and providing them with the right training will ensure this outcome. Having the right recruiting and selection process in place is essential for any business in order to ensure they are selecting the best candidates and getting the most out of their resources. Implementing clear policies and procedures, as well as training hiring managers and supervisors on the requirements of the process, helps ensure that the right people are chosen, trained appropriately, and treated with respect. No matter which industry or sector an organization operates in,

the people it employs are the key to its success. Without the right staff, even the most advanced technology and the most impressive physical resources will not help the organization reach its desired goals. People are the driving force behind any organization's success, and the right people can make all the difference.

4. Objective

- To assess the significant relationship between experience level of the employees and satisfaction level towards recruitment process.
- To assess the satisfaction level of employees towards the recruitment process.
- To assess which recruitment source is very effective.

5. Research Methodology

Research methodology generally refers to the systematic procedure carried out in any project on research study. Methodology gives clear picture of suitable clarification and sequences of the different stages of the study, as to a proper manifestation of the objectives, scope and limitations of the study.

Sampling Size

The sample size was 110.

Sampling Method

Sampling techniques is the process of selecting a few from bigger group become the basis for estimating or predicting the fact, situation or outcome regarding to bigger group. The researcher adopted convenience sampling, as the respondents are selected according to the convenience of the researcher.

Tools Used for Data Collection

Questionnaire

The study utilized a questionnaire as its primary instrument for data collection, which consisted of structured, non-disguised, self-administered questions including dichotomous, closed and open-ended formats as well as rating scales. The questionnaire was meticulously crafted with the assistance of a subject matter expert, demonstrating utmost care in its preparation.

6. Tools for Analysis

The tools used for analysis are:

- A. Percentage Analysis
- B. Weighted Average Method

C. Chi- Square Method

A) Percentage Analysis

Interpreting business and economics statistics can be simplified by expressing data in percentages, which is a common statistical method for facilitating comparisons. The calculation of percentages involves the use of algebraic notation, which can be represented as follows:

$$\begin{aligned} \text{Percentage} &= r1 / r2 \times 100 \\ R1 &= \text{No. of respondents} \\ R2 &= \text{Total no. of respondents} \end{aligned}$$

B) Weighted Average Method

To analyze the questions that require respondents to use rating scales, a weighted average method was employed. Initially, all relevant factors were identified and assigned weights before being ranked. The formula for calculating weighted average is

$$\text{Weighted average (W)} = \frac{W1X1 + W2X2 + \dots + WnXn}{W1 + W2 + \dots + Wn}$$

Where W1, W2, W3..... Wn are the required value called weighted X1, X2...Xn are the attributes.

C) Chi Square Analysis

Among the various tests of significance developed by statisticians, the Chi-Square test holds significant importance. As a non-parametric test, it is utilized to identify whether categorical data exhibits dependence or if two classifications are independent. Additionally, the Chi-Square test is useful in comparing theoretical population data with actual categories observed in collected data.

Calculate the expected frequencies on the basis of the given hypothesis or on the basis of the null hypothesis.

$$\begin{aligned} \text{Where } O &= \text{Observed frequency of the cell} \\ E &= \text{Expected frequency of the cell} \end{aligned}$$

(Row total for the row of the cell) x (Column total for the column of that cell)

$$E = \frac{\text{Grand Total}}{\text{Grand Total}}$$

The difference between each observed frequency and each expected frequency is computed. The

differences are squared. The respects expected frequency divide frequency each squared differences. Their quotients are added together to obtain the computed chi-square value. The computed value is then compared to tabulation chi- square. If the computed value is greater than the tabulated value at a degree of freedom and level of significance, the hypothesis is rejected.

The chi-square test is used to determine the significance difference that exist among groups or data chi-square involves a comparison of expected frequency (E) with observed frequency (O) to determine whether

$$\text{Chi-square} = \sum \frac{(O-E)^2}{E}$$

Where, O = Observed frequency of the cell
E = Expected frequency of the cell

7. Limitations

The respondent's views many change from time to time and most of the employees were tight work and they do not want to be disturbed. A very limited time available to reach out the employees because of the time constraints the validity of the study was not compromised.

8. Data Analysis & Findings

Hypotheses of the Study:

There is no significant relationship between work experience in this organization and level of satisfaction towards recruitment process.

Work Experience in this Organisation Vs Level of Satisfaction Towards Recruitment Process

WORK EXPERIENCE AND LEVEL OF SATISFACTION	SATISFIED	NEITHER SATISFIED NOR DISSATISFIED	DISSATISFIED	TOTAL
0-5 yrs	34	28	7	69
6-10 yrs	16	5	5	26
More than 10 yrs	5	5	5	15
TOTAL	55	38	17	110

Calculation of Expected Frequency:

$$\text{Row total} * \text{Column Total}$$

$$\text{Expected Frequency (E)} = \frac{\text{Grand Total}}{\text{Grand Total}}$$

O	E	O-E	(O-E) ²	(O-E) ² /E
34	34.5	-0.5	0.25	0.0072
28	23.83	4.17	17.3889	0.7297
7	10.66	-3.66	13.3956	1.2566
16	13	3	9	0.6923
5	8.98	-3.98	15.8404	1.7639
5	4.01	0.99	0.9801	0.2444
5	7.5	-2.5	6.25	0.8333
5	5.18	-0.18	0.0324	0.0062
5	2.31	2.69	7.2361	3.1235
		Total		8.6661

Calculated value $X^2 = 8.6661$

Degrees of freedom = $df = (r-1)(c-1)$
 $= (3-1)(3-1) = 2 * 2 = 4$

Table value for 4 at 5% level of significance is 9.488
 Since calculated value is less than tabulated value, null hypothesis is accepted.

Challenges Faced by HR:

One of the main challenges faced by HR could be a proactive and inventive in their approach to finding and engaging potential employees in order to stay competitive in today's rapidly changing technology landscape. This means coming up with new and innovative ways to attract and retain the best talent in order to keep the company running smoothly and successfully. HR is responsible for keeping the company informed and compliant with the changing laws and regulations related to employment, labor, and safety. It is essential for HR to stay abreast of these changes and ensure that the organization follows them to the letter. Another challenge is HR must foster a positive workplace culture by providing effective training and development programs, establishing trust and respect, and recognizing employees for their efforts. This will help to create an environment that encourages creativity and collaboration, which is key to the success of any organization. They must ensure that the employee benefits they provide are competitive in the marketplace and that employees understand their rights and options under the plans. An effective benefits management system must be in place to ensure that employees are aware of their available options and to guarantee that the company is meeting its legal obligations. On the other hand, to effectively address and resolve conflicts in the workplace in a professional manner, in accordance with company policies, relevant laws, and regulations.

9. Results and Discussion

There is no evidence to suggest that there is a significant relationship between work experience in an organization and level of satisfaction towards recruitment process. **So calculated value is less than tabulated value, null hypothesis is accepted.** To fully understand the factors that influence an individual's satisfaction level with the recruitment process, it may be necessary to explore other potential variables such as the quality of the recruitment process, the candidate's expectations, and the availability of suitable positions. While work experience may be a relevant factor, further research is needed to determine its significance in relation to overall satisfaction with the recruitment process.

10. Conclusion

According to the study, the majority of employees expressed satisfaction with both the recruitment process and the career growth opportunities offered by their organizations. As an HR professional, it is crucial to select the most suitable candidate from the available talent pool, with a focus on sustaining long-term performance rather than short-term gains. To achieve this goal, HR managers should seek candidates who possess traits conducive to organizational success. Although HR managers face several challenges in ensuring the Human Resource Department contributes to the bottom-line and functions as a strategic partner in the business, Talent Acquisition is a crucial factor in determining the department's overall effectiveness in achieving organizational objectives. Therefore, it is imperative for HR managers to prioritize the training and skill enhancement of recruiters. The study sheds light on the various aspects of recruitment process effectiveness and highlights internal recruitment as a cost-effective means of selection for organizations.

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Challenges Faced by HR on Recruitment Process

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ABSTRACT

In today's knowledge economy, organizations are increasingly relying on the value created by their human resources for success. As such, recruitment and selection processes have become a critical factor in ensuring an organization attracts and retains the best talent. However, there is a lack of research into the various elements that make up the recruitment and selection process. Previous studies have focused on the performance of employees and the criteria used to attract the right talent, as well as organizational efficiency. This paper examines the demographic factors of respondents and the challenges faced by HR in Chennai when recruiting and selecting talent. It seeks to identify the Human Resource challenges that affect the recruitment process and how they are related to the demographic variables. It further investigates the link between performance and success in recruitment and selection processes, and how this connection may be changing within certain organizations. The research aims to improve the performance of organizations by helping them hire high-quality talent through a better understanding of the recruitment and selection process. The objective of this study is to analyse the trends in recruitment use and practice, and identify the opportunities and challenges encountered by job seekers and employers when utilising e-recruitment. Additionally, the study seeks to understand how value-added services, cost-effectiveness, speed, customised solutions, relationship building with HR managers, and brand building can help organisations to successfully recruit staff.

Key words: Challenges, Opportunities, Performance, Recruitment, Selection process.

1. Introduction

Staff members are a key factor in the successful functioning of any organization today. To ensure the organization operates effectively and efficiently, it is essential that the right people are placed in the right roles. Careful selection of employees can not only improve productivity, but also ensure the organization has sufficient resources for future replacement. The hiring process begins with Human Resource Planning (HRP) which assesses the number and type of personnel needed. Job analysis and job design are then used to determine the duties and qualifications for the role. HRP, job analysis and job design provide a framework for identifying the personnel required by the organization, and thus the hiring process. Recruiting and selecting the right candidates is essential for any organization. To ensure an effective and efficient recruitment process, HR professionals must use reliable selection techniques. Recent evidence has shown that many selection techniques used by organizations are failing to accurately predict future performance. This has raised concerns among senior managers due to the

financial cost associated with recruitment and selection processes and the continued high rate of labour turnover. To address these issues, data was collected from a sample of 50 respondents, including Managers, Consultants, Trainers, Interview Experts, and Executives from 20 different HR departments. The results of this study could provide HR with a new strategy or adjustments to their existing one. Hiring is not a one-off process, but rather an ongoing process. Employees may leave for better opportunities, retire or pass away, while the organization can grow and diversify, requiring new personnel. The hiring process only stops when the organization ceases to exist.

2. Literature Review

The study conducted by Urmila Itam and Sapna Singh found that internal branding practices are essential for motivating service employees in their job and connecting them to the organization. This connection was found to have a full mediation effect on internal branding practices and result variables. The study

conducted by Jason Gawke, Marjan Gorgievski, and Arnold B. Bakker revealed that employee intrapreneurship can lead to an increase in personal resources and higher and more stable levels of work engagement. This creates a positive cycle of growth, with employee intrapreneurship leading to an increase in personal resources, which in turn leads to higher levels of work engagement. The Premarathne, Kulatunga, Ekanayake and Miyanadeniya study demonstrated that value creation should begin at the family level, and that technological inputs are essential for the sustainability of manufacturing processes. Furthermore, the study highlighted the importance of continued education and training for craftsmen to ensure the sustainability of their manufacturing efforts. The data collected from office workers driving to and from work each day in five cities in China suggested that hindrance and challenge demands are related to emotional exhaustion, which in turn was associated with driving anger. Additionally, work engagement was found to be positively correlated with driving anger as well. Feng Lia, Guangxi Wanga, Yongjuan Lia and Ronggang Zhou conducted a structural equation modeling analysis to explore these relationships. The effects of civic engagement on happiness vary depending on income. For those with either low or high incomes, a positive association was observed; however, this correlation was not seen for those with middle or upper-middle incomes. Additionally, according to Liang Guo, Yehuda Baruch, and Marcello Russo, there is a negative correlation between work resources and happiness for those with middle level income. Upadyaya, K., & Salmela-Aro found that work engagement had a positive effect on young adults' life satisfaction in their third decade of life. Additionally, it was observed that males had higher initial life satisfaction than females. Moreover, there were no differences between gender or academic track when it came to the development of life satisfaction and work/study engagement. Switching into exporting and opening up affiliates abroad were found to be linked to an increase in the structured management practices adopted by firms, according to research conducted by Holger Gorg and Aoife Hanley. Employee engagement is often seen as a higher-order measure of job attitudes that can effectively predict employee effectiveness. A meta-analysis conducted by Michael Mackay, Joseph Allen, and Ronald Landis found that employee engagement showed incremental validity in the prediction of employee effectiveness when compared to other job attitudes such as job satisfaction, job

involvement, and organizational commitment. In this paper, Vesela Veleva, Gavin Bodkin, and Svetlana Todorova suggest an "Expanded Zero Waste" practice, which includes indicators to measure the outcomes and impacts of circular business strategies. Moreover, the authors emphasize employee engagement as an essential factor in identifying and executing sustainability strategies. Radic suggests that cruise organizations can benefit from building better communication, increasing their capacity for engagement, and encouraging engaged behavior among employees, in order to increase engagement. This study examines how HPWS affects employees' work engagement, job satisfaction, affective commitment, and intention to leave their hospital, as well as the mediating effect that these variables have on each other. Panagiotis V. Kloutsiniotis and Dimitrios M. Mihail are investigating these relationships.

Research conducted by Jari J. Hakanen, Maria C. W. Peeters, and Wilmar B. Schaufeli suggests that work engagement has a greater influence on job crafting and other aspects of employee well-being than job satisfaction. Additionally, although workaholism was found to be positively linked to job crafting, it was also associated with burnout. Job rotation, which is currently supported by evidence, appears to have a positive correlation with job satisfaction even though it does not necessarily reduce exposure to physical risk factors. Therefore, appropriate training of workers is an essential part of any job-rotation program to ensure it is successful. Anand & Chitra have reviewed that leveraging the power of the internet, E-recruitment can provide companies with a competitive advantage by allowing them to quickly and effectively fill vacant positions. However, for companies that have not yet adopted this technology, they could be at a disadvantage compared to their peers. The study conducted by Graemeetal investigated the effectiveness of an outsourced recruitment service from the point of view of line-managers. The research was based on a single, large organization and consisted of an online survey targeting line-managers who had recently hired employees. Results from quantitative analysis such as correlation, multiple regression and binary logistic regression were used to evaluate manager perceptions. It was found that standards of service and recruiter provision were satisfactory, but external aspects of the recruitment process were less successful. Additionally, customer and recruiter satisfaction, as well as willingness to recommend the service, were explained by various experiences of the

service and recruiter. Surprisingly, personal line-manager experiences, perceived realization of organizational values or achieving preferred line-manager recruitment objectives did not play a significant part in these explanations. Alex and Garcea have explored Strengths-based recruitment and the Situational Strengths Test are enabling recruiters to engage, attract, and select the best talent, as demonstrated by Ernst and Young. These processes assess candidates in relation to their performance and motivation, identifying what they do well and enjoy doing. It also provides a realistic job preview, helping candidates make informed decisions about their fit with the role and helping employers select the best-suited candidates for their requirements. Ultimately, this leads to better outcomes for both candidates and employers. Maureen and Levant have reviewed The profile of the ideal international business manager has been explored in an independent review, which has identified practical implications from cutting-edge research and case studies. It is becoming increasingly important for companies to select and recruit personnel who are not deterred by the prospect of taking on overseas assignments and are capable of meeting the core competencies required for success. To ensure this, employers can use a variety of methods to predict the behaviors of potential business managers. This qualitative research paper, conducted by Pramila Rao, utilizes purposeful sampling to provide insight into the senior-level staffing practices of five software companies located in India. Through tape-recorded interviews and diligent note-taking, the research identified eight predominant senior-level staffing practices, including internal recruitment, employer references, succession planning, interviews, personality tests, newspaper recruitment, professional search agencies, and bio-data. This study by Nicoline and Bjorn looks at how eight Norwegian higher education institutions address excellence and diversity in their student recruitment strategies. The researchers take a practical angle, combining document analysis with qualitative interviews to gain insight into the development of the strategies, the characteristics of each strategy, and the connection to the individual institution's profile and ambitions. The results of the study show that student recruitment strategies are often based on the institution's identity, while still adhering to external expectations and trends. Additionally, it was found that many institutions use their student recruitment strategies for accountability. The researchers conclude that, despite its importance, student recruitment is often given a low priority. This

research conducted by Menatallahetal investigated the recruitment processes and problems faced by multinational companies (MNCs) operating in Egypt, as well as the de-recruitment activities they undertake. Questionnaires were used to acquire data from 55 MNCs, revealing that while small and medium enterprises (SMEs) had a higher adoption rate of the recruitment process than large enterprises (LEs), the recruitment function was largely run by human resource management (HRM) and line management. Candidate- and organization-related problems were identified, with the former being more frequently reported by SMEs. Additionally, the findings illustrated the actual de-recruitment practices undertaken by MNCs operating in Egypt, with SMEs adopting less aggressive de-recruitment activities than LEs, such as recruitment freezing and early retirement.

3. Statement of the Problem

Recruiting and selecting the right employees is essential for any construction firm to be successful. In order to ensure that the company meets client expectations in terms of quality, cost, time, and safety, it is imperative for management to implement policies and strategies that will help them to identify and select the most suitable candidates. Without the right recruitment and selection practices, it can be difficult to achieve the desired goals and objectives of the organization. Therefore, it is important to have a clear understanding of how selection and recruitment are done in order to ensure efficient and effective performance.

4. Research Objectives

- To identify the recruitment process of various organizations.
- To study the relationship between demographic variables and dimensions of challenges in recruitment and selection process.
- To identify various recruitment challenges faced by the organization in multiple department.
- To suggest few areas for scope for improvement in recruitment process.
- To offer suggestions to decrease challenges in recruitment and selection process.

5. Research Methodology

The purpose of this descriptive study was to

investigate the various challenges encountered in the recruitment and selection process of Human Resource personnel in Chennai. Data was collected from 50 participants, consisting of Managers, Consultants, Trainers, Interview Experts, and Executives, who were selected from 20 Human Resource organizations. In order to analyze the data, Pearson's Correlation and Multiple Regression Analysis were applied.

6. Limitations of the Study

This research had several challenges such as difficulty in connecting with the workers on site, reluctance of senior members in sharing information about recruitment and selection, and limited time availability due to the combination of studies and work. Despite these limitations, the validity of the study was not compromised.

7. Data Analysis / Findings

Hypotheses of the Study:

- There is no significant correlation between the demographic factors of the respondents and dimensions in recruitment and selection process.

Correlation Analysis Between Demographic Variables of the Respondents on their Perceived Challenges in Recruitment and Selection Process

Pearson's Correlation Coefficient analysis was conducted to investigate the relationship between the demographic characteristics of the respondents and the perceived challenges in the recruitment and selection process. Results showed that there was no correlation between the demographic factors of the respondents and the challenges they experienced in the recruitment and selection process. A correlation analysis of demographic variables (Gender, Age, Marital Status, Educational Qualification, Designation, and Years of Experience) with the perceived challenges in recruitment and selection processes (Company Policy, Recruitment Methods, Recruitment Procedures, Selection Process, and General Problems) revealed significant correlations at the 0.01 level for Gender ($r = 0.462$), Age ($r = 0.319$), and Years of Experience ($r = 0.380$). Additionally, Years of Experience was correlated at the 0.01 level with Company Policy ($r = 0.306$), Gender ($r = 0.269$), Educational Qualification ($r = 0.492$), and Designation ($r = 0.582$) with Recruitment Methods, Educational Qualification ($r = 0.576$) and Designation ($r = 0.361$) with Recruitment

Procedures, and Gender ($r = 0.238$) at the 0.05 level. The results of the correlation analysis for Selection Process and General show that gender, age, years of experience, educational qualification, and designation are all significantly correlated with the recruitment process at the 0.01 level. Therefore, the proposed null hypothesis is rejected, indicating that demographic factors play a role in the recruitment process.

Influence of Demographic Factors on Perceived Challenges in Recruitment and Selection Process

A Multiple Regression analysis was conducted to examine the effect of demographic variables on perceived challenges in the recruitment and selection process. The results of this analysis are presented in Table 1.

Table 1: Multiple Regression Analysis of the Respondents on their Perceived Challenges in Recruitment and Selection Process

Independent Variables	Dependent Variable	B	t	R ²	F
Gender	Recruitment and Selection Process	-10.574	-4.602**	0.366	8.951**
Age		0.026	0.020		
Marital Status		2.007	0.962		
Educational Qualification		-4.147	-4.137**		
Designation		1.876	2.850**		
Years of Experience		3.034	2.250*		

Source: Computed.

** - Significant at the 0.01 level

* - Significant at the 0.05 level

The results of the Multiple Regression analysis show that Gender, Educational Qualification, and Designation all have a significant influence on the respondent's perceived challenges in the Recruitment and Selection process. Gender and Educational Qualification had a negative influence, while Designation had a positive influence. The 'R²' value of 0.366 indicates that these three demographic factors account for 36.6% of the total variation in the responses. This is supported by the significance of the 'F' statistics at the 0.01 level.

Challenges Faced by HR:

I can provide information on challenges faced by HR during the recruitment process in general. One of the main challenges is attracting high-quality candidates who are a good fit for the organization. This requires understanding the job market, defining the job requirements and qualifications clearly, and

effectively communicating the job opportunities to potential candidates through job postings, social media, and other recruitment channels. Another challenge is managing a large volume of applications, which can be time-consuming and overwhelming for HR. This requires an efficient applicant tracking system and a screening process that filters out unqualified candidates. HR also faces challenges in conducting effective interviews and selecting the best candidates. This requires developing and using reliable interview techniques, ensuring objectivity and fairness in the selection process, and making sure that the final decision is based on the candidate's qualifications and fit with the organization's culture and values. Other challenges include negotiating salary and benefits, managing diversity and inclusion in the hiring process, and retaining the top talent once they are hired. To address these challenges, HR professionals can use various strategies such as building a strong employer brand, developing effective recruitment and selection policies and procedures, using technology to streamline the process, and continuously evaluating and improving the recruitment process.

8. Results and Discussion

Correlation Between Demographic Factors and Organizational Citizenship Behaviour

The results of this study indicate that the demographic variables such as gender, age, educational qualification, designation and years of experience have a significant correlation with the components of recruitment and selection process. Specifically, at the 0.01 level of significance, years of experience is correlated with perceived challenges in recruitment and selection process, gender, educational qualification and designation are correlated with recruitment methods, educational qualification and designation are correlated with recruitment procedure, and gender, age and years of experience are correlated with selection procedure and general problems. In light of the Company policy, all the demographic factors are considered important for recruitment and selection process.

Influence of Demographic Factors on the Recruitment and Selection Process

The results of the t-statistics suggest that gender, educational qualification, and designation have a significant influence on the recruitment and selection process. Gender and educational qualification had a negative correlation with the process, while

designation had a positive correlation. The R² value of 0.366 was found to be highly significant, as the F-statistics (8.951) was significant at the 0.01 level. This implies that 36.60% of the total variation can be explained by the explanatory variables.

9. Conclusion

The recruitment process is a crucial process that requires HR to navigate various challenges. Attracting the right candidates, managing a high volume of applications, screening applicants, ensuring diversity and inclusion, ensuring employer branding, and employer reputation are some of the challenges faced by HR during the recruitment process. Developing effective strategies to address these challenges can improve the quality of the talent that is hired and ensure that the recruitment process is effective. This study has revealed that the explanatory variables account for 36.60% of the total variation. To ensure successful recruitment of the most suitable and industry-oriented professionals, it is suggested that organizations make use of best practices in screening and selection. Furthermore, internet-based assessment can help organizations to swiftly identify the right candidates and make job offers quickly. This can be beneficial to organizations, as speed of hiring is a critical aspect. Although e-recruitment and e-selection can offer numerous advantages, managers should be aware that certain minority groups, such as women and older people, may be negatively impacted by the use of the internet. This could lead to violation of antidiscrimination laws. To ensure accurate selection of higher-performing employees, validation studies should be conducted on selection techniques to determine which are the most predictive. To ensure the highest level of satisfaction among employees and to reduce any potential errors in the recruitment and selection process, it is essential to properly plan and execute the process. Efforts should be made to eliminate any bias that may be present in the responses. Additionally, regular checks should be kept on the activities taking place during recruitment and selection to ensure efficiency.

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Influence of Digital Experiential Marketing for a Sustainable Customer Relationship: with Special Reference to the Luxury Cosmetics Sector in India

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ABSTRACT

This paper aims to provide light on the domains of experiential marketing, traditional marketing, and digital marketing. It also attempts to identify the gaps in experiential aspect that appears during an online shopping. The paper tries to identify the components or factors that are responsible for the optimum consumer experience while purchasing online. The purpose of this study is to investigate influence of some critical factors of digital experiential marketing (online store atmosphere, customized information, customer experience, AI effectiveness, online purchase and repurchase intention) on sustained customer relationship for the luxury cosmetics sector in India. Even though a lot of research has been done in the digital experiential marketing but there are still gaps in the literature. As cosmetics are a product where the customer places a high value on product and service experience, we will concentrate on luxury cosmetics market in India. The findings reveal that more a customer is satisfied with the overall digital experience of the product more sustainable relationship will be there between consumer and e-businesses. Providing high levels of interactivity and trust is found to be very crucial for customer satisfaction. The paper studies customer relationship by the factors like increased awareness, positive Word-of-mouth publicity, e-loyalty and customer satisfaction on the online platform and tries to outline a strategic advice for online cosmetic sector. This essay discusses a theoretical framework for digital experience marketing that is pertinent to both researchers and industry professionals. In this study, suggestions for future aspects and significant consequences are also covered.

Keywords: Digital marketing, Experiential marketing, Digital experiential marketing, online store atmospherics, luxury cosmetics, Artificial Intelligence, sustainable relationship, e-loyalty

1. Introduction:

We have witnessed a significant shift in global business trends during the previous few decades. The introduction of the Internet and improvements in computer hardware and software have given consumers access to the whole global market. The development of 4G and 5G technologies has increased speed, making online buying one of the most practical methods of shopping for customers. According to Kukar-Kinney and Close (2010), online shopping is the action of making purchases of goods or services over the internet. Customers can now shop, compare, and choose products while relaxing at home or at work without having to deal with the time and expense of making physical purchases. According to Adnan (2014), the tendency has led several companies to sell the same goods online as well. Experience supplants price and quality as the primary difference for consumers in a time when items are becoming more similar (1). This not only draws attention to them but also gives them a

significant advantage over other companies. However, having an online store alone is insufficient to draw in and keep customers; it is also crucial to research customer behavior in an online setting. It is crucial to identify and research View Statistics the vital factors that are important for drawing in and keeping online customers. Adequate studies have been conducted on identification of factors affecting online consumer behavior (Poddar, Donthu, & Wei, 2009)

2. Literature Review

Ana-Maria Urdea, Cristinel Petrisor Constantin and Ioana Maderia Pucaru says that Interactivity Design, Social Contact, Atmospherics Choice and Trust are the important digital experiential elements that help in building sustainable customer relationship.

Dr. Veto Datta says that Experiential Marketing is powerful instrument, it considers consumer as rational and emotional human being who concerned with achieving pleasurable experiences so company

need to consider new concept and approaches within the organization,

Rati Dhillon, Bhawna Agarwal and Namita Rajput (2021) says that Use frequency, Importance, Recommend or not, Integrity and reputation, Staff support, Store factors To determine the impact of experiential marketing on consumer satisfaction in the Indian cosmetics sector

Yogesh K. Dwivedi Et. Al in their study of Setting the future of digital and social media marketing research: Perspectives and research propositions says that there is Lack of appropriate scale of measurement for Digital experiential marketing, Constant change in current and emerging social media platform, B2B research required.

Kashif Abrar, Sobia Zaman and Zoya Wajid Satti says that Online store atmosphere, Customized information and Customer Satisfaction are some of the factors that influence customer's online Repurchase intention

Dr.R.Shanthi and Dr. Desti Kannaiah says that although consumers continue to purchase from a physical store, consumers feel very convenient to shop online since it frees the customer from personally visiting the store. There is much more electronic interactivity with the consumer in the form of emails and FAQs. Through FAQs, the consumer's questions on shipment, payment, product, policies and other customer concerns can be addressed effectively.

Philipp A.Rauschnabel et al. In their study of augmented reality marketing, Its definition, complexity, and future says that there is a 4 BICK framework for augmented reality marketing. the Holistic approach towards AR remains sparse and there is a need to establish marketing tools within specific industry in AR marketing.

Margaret Meiling Luo, Ja-Shen Chen., Russell K.H. Ching b & Chu-Chi Liu in their examination of the effects of virtual experiential marketing on online customer intentions and loyalty says that VEM variables (Sense, Interaction, Pleasure, Flow and Community relationship), Shopping orientation (Economic, Convenience and IT usage), Online browsing and. Online purchase intention are the factors that influences customer loyalty.

Saeed Shobeiria, Ebrahim Mazaherib and Michel Laroche says that customer online experience can be improved through website involvement by focusing on Customer ROI, Service Excellence, Esthetics and playfulness of the website.

Abdul-Muhmin, A. G. (2010). Says that there is a role

of satisfaction, attitude, and online retailers' performance on the Repeat purchase intentions in online shopping.

Anderson, R. E., & Srinivasan, S. S. (2003) gives a contingency framework for e-satisfaction and e-loyalty.

Ballantine, P. W. (2005) says that interactivity and product information has an important role in consumer satisfaction in an online retail setting.

Ha, H. Y., & Janda, S. (2014) studies the effect of customized information on online purchase intentions and finds out that Customized information has a direct effect on both satisfaction and trust. The effect of satisfaction on purchase intentions is mediated by attitude toward web site.

Orel, F. D., & Kara, A. says that there is a positive and significant relationship between self-checkout service quality and customer satisfaction and ultimately customer loyalty However it is important for provider of SCS to investigate their customer experiences and evaluation of such technologies. They should identify the factors that influence satisfaction or dissatisfaction of the customers and should not introduce it just because everyone else is doing it.

Gao, L., & Bai, X, in their study apply the concept of web atmospheric cues (conceptualized as site informativeness, site effectiveness and site entertainment), flow state and purchase intention and satisfaction by applying the S-O-R framework. the results support that there is directional linkage among the model's variables.

Li, C.; Pan, R.; Xin, H.; Deng, Z. researches Artificial Intelligence Customer Service on Consumer Attitude and Its Impact during Online Shopping and says that the main reasons AI customer service is so popular that it is fulltime responsive, absolutely neutral, more objective, and represents a future trend. Nevertheless, 28.5% of consumers are still resistant to AI chatbots, mainly because they are not as relevant, effective, and smooth as a human customer service agent.

Paz, M.D.R.; Delgado, F.J. in their study of Consumer Experience and Omni channel Behavior in Various Sales Atmospheres says that a virtual store environment (online retail sales site) evidently lacks certain features of brick-and-mortar retail settings (such as three of the five senses: smell, taste, and touch), but it has other advantages (such as flexibility in time and space) which combine to make it an ecosystem significantly different from conventional retail environments, with highly promising research opportunities for the fields of neuro marketing and neuroscience applied to business.

Petit, O.; Velasco, C.; Spence, C focuses on Digital sensory marketing for Integrating new technologies into multisensory online experience. According to them recent progress in the field of human–computer interaction means that online environments will likely engage more of the senses and become more connected with offline environments in the coming years. This expansion will likely coincide with an increasing engagement with the consumer's more emotional senses, namely touch/hap tics, and possibly even olfaction Forward-thinking marketers and researchers will therefore need to appropriate the latest tools/technologies in order to deliver richer online experiences for tomorrow's consumers.

Swapana, M.; Padmavathy, C explore the conceptual model and describe the essential elements of online shopping experience. They proposed a model called OSE (Online shopping Experience Model). The factors that were found to be influencing online shopping were Motivation, Convenience, service quality, website and accessibility.

Schmitt, B.; Zarantonello, L, in their article say that experiences can be, should be and must be trusted. Experiences are not only helpful in making good decisions but they are also enriching our daily lives. However more research is needed on the process by which specific cues in experiential touch points create specific consumer experiences and the process by which experiences impact consumer behavior.

Barari, M.; Ross, M.; Surachartkumtonkun, J studies what are the Negative and positive customer shopping experience in an online context and says that that while customer priority in a successful shopping context is affective experience, in a service failure the customer priority moves from an affective to a cognitive experience. Similarly, compared to cognitive experience, affective experience has a higher impact on customer satisfaction and positive word of mouth in a successful shopping context, while in an unsuccessful shopping context cognitive experience has higher impact on dissatisfaction and negative word of mouth.

Madhu B and Deepak Verma in their paper, which is based on secondary data, i.e extant literature and internet sources acknowledge that business can really benefit from digital marketing such as search engine optimization, search engine marketing, content marketing, influencer marketing, content automation, e commerce marketing, campaign marketing, social media marketing, social media optimization, e mail direct marketing, display advertising, e-books, optical disks, gaming are becoming more and more common in our advancing

technology.

Esmailpour, M.; Mohseni, Z. In their article propose that behavioral experience, cognitive experience, affective experience, sensory experience and social experience have positive impact on consumer purchase intention.

Kawaf, F.; Tagg, S The construction of online shopping experience: A repertory grid approach, this paper explores what an online shopping experience is as constructed by consumers, using their own words. Adopting Kelly's (1955) personal construct theory (PCT), twenty-three repertory grid interviews are conducted and analyzed using multi-coder qualitative content analysis The findings highlight the fluid nature of experience and its construction (emotional, perceptual, situational and behavioral).

Rita, P.; Oliveira, T.; Farisa, A in their analytical results showed that three dimensions of e-service quality, namely website design, security/privacy and fulfillment affect overall e-service quality. Meanwhile, customer service is not significantly related to overall e-service quality. Overall e-service quality is statistically significantly related to customer behavior. Future research should consider a variety of product segments and/or other industries to make sure that the measurement works equally well.

Yoganathan, V.; Osburg, V.S.; Akhtar, P advocates that there is a need for Sensory stimulation for sensible consumption and introduces Multisensory marketing for e-tailing of ethical brands. They say that multisensory marketing is a powerful technique for enhancing consumer experience.

Elliot, S.; Fowell, S .in their study found that consumers' expectations of convenience, customized service and access to a wider variety of products were realized in 70% of cases. However, consumer concerns about security, ease of use, levels of service and overall cost pose significant constraints on growth. On the basis of these findings a more integrated approach to research in Internet shopping is proposed.

Cleff, T.; Nadine, W.; Jing, X. studies the effect of online brand experience on brand loyalty and says that although online brand experience lacks physical presence such as a store, it still has the possibility to create a virtual brand experience through visual, audible, gaming or community-based features, which in turn can lead to improved brand image and to behavioral and attitudinal brand loyalty

Ghahtarani, A.; Sheikhmohammady, M.; Rostami, M. studies the impact of social capital and social interaction on customers' purchase intention, considering knowledge sharing in social commerce

context and says that structural capital, cognitive capital, relational capital, interpersonal interactions, perceived benefits and information/knowledge sharing behavior all positively influences purchase intentions.

Vikas, A.; Deepa, S.; Justin, P discusses Does digital footprint act as a digital asset and Enhancing brand experience through remarketing.

Al-Maghrabi, T.; Dennis, C takes efforts to find What drives consumers' continuance intention to e-shopping and finds that perceived usefulness, enjoyment and social pressure are determinants of continual online shopping intention.

Sheehan, D.; Hardesty, D.M.; Ziegler, A.H.; Chen, H studies Consumer reactions to price discounts across online shopping experiences.

Rauschnabel, P.A.; Felix, R.; Hinsch, C studies Augmented reality marketing and tries to find out How mobile AR-apps can improve brands through inspiration. According to them,etailers can use machine learning knowledge tocreate personalized promotion according to customer experience,loyalty and perceived motivation

Khalifa, M.; Liu, V says that Online consumer retention is a result of interaction between online shopping habit and online shopping experience.

Katawetawarak, C.; Wang, C.L. in this study provides an overview of online shopping decision process by comparing offline and online decision making. They also identify the the factors that motivate online customers to decide or not decide to buy online. They find out that marketing communication process differ between offline and online consumer decision.

Bridges, E.; Florsheim, R. in present research suggests that utilitarian flow elements that facilitate shopping may indeed increase purchasing. However, hedonic elements of flow are found to be unrelated to online buying, although they are positively related to outcomes associated with pathological Internet use. Results suggest that online buying may be increased by providing website characteristics that serve utilitarian goals rather than offering hedonic value.

Zhou, L., Dai, L., & Zhang, D. (2007) in their Online shopping acceptance model: A critical survey of consumer factors in online shopping, classifies consumer factors examined in online shopping acceptance research. These factors are Consumer Factors – General Consumer demographics, Internet experience, Shopping Orientation and Shopping and Online i.e., Online shopping experience.

Gupta, P., Yadav, M. S., & Varadarajan, R. (2009) says that there are issues relating to trust development

in the electronic marketplace, their research suggests that factors such as site design and navigability are among the factors that impact trust perceptions.

Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009) Say that brand experiences affect consumer satisfaction and consumer loyalty positively. The 12-item brand experience scale captures in a reliable and stable way four dimensions of brand experience: sensory, affective, behavioral, and intellectual.

Brunner-Sperdin, A., Scholl-Grissemann, U. S., & Stokburger-Sauer, N. E. in this paper argues that consumers prefer online settings that are high in sense-making and exploration potential as they make consumers feel good and increase their confidence level. The results of two empirical studies indicate that the holistic perception of online settings enhances emotional reactions and leads to desired behavioral outcomes.

E.C.Sung et al.in their study of Consumer engagement via interactive artificial intelligence and mixed reality demonstrate that the quality of AI (i.e., speech recognition and synthesis via machine learning) associated with an augmented object increases MR immersion associated with spatial immersion, MR enjoyment, and consumers' perceptions of novel experiences. Collectively, these increase consumer engagement, and positively influence behavioral responses—specifically, purchase intentions and intentions to share experiences with social groups. Overall, findings from this study show that interactive AI and MR technology open new avenues to promote consumer engagement.

A.R. Smink et al.in their article Shopping in augmented reality: The effects of Spatial presence, personalization and intrusiveness on app and Brand Responses says that spatial presence and perceived personalization can explain positive persuasive responses towards AR apps. Their study shows that, For the app that augmented the user's face with virtual products, perceived personalization enhanced purchase intentions, while perceived intrusiveness had negative persuasive consequences. For the app that showed virtual products in one's surroundings, spatial presence enhanced purchase intentions, and no negative persuasive consequences were found

Joachim Scholz and Andrew N. Smith says that While AR can play a valuable role in integrated marketing programs, little is known about the practice and how to execute effective AR programs in the marketplace. They develop eight actionable recommendations - described with the acronym ENTANGLE - marketing managers can use to design immersive AR

experiences that maximize consumer engagement

2. Need For The Study /Gaps In The Literature Review

1. There are many review articles in the fields of digital marketing that are progressively more popular, attracting great attention due to their several benefits to the consumers.
2. In the papers, researchers focus mostly on topics such as online customer behavior, online customer experience and online customer satisfaction. Only a few studies have examined the effective experiential determinants that enhance consumers' involvement in an online store and create sustainable customer relationships.
3. Experiential marketing methods create memorable experience and positive WOM publicity, primary evidence on this phenomenon is lacking in Indian Scenario.
4. Brand experience and emotional responses to luxury cosmetics itself are under explored.
5. The study is not industry specific, Future studies may investigate this with respect to a particular industry
6. Holistic approach towards AR remains sparse.
7. Lack of established marketing tools within specific industry

3. Objectives:

The paper aims to achieve the following objectives

- 1) Examine the effective experiential determinants that enhance consumers' involvement in an online store and create sustainable customer relationships.
- 2) Study a specific industry i.e. luxury cosmetic sector which is absent in the existing literature
- 3) Takes a Holistic approach towards Augmented Reality (AR)

4. Hypothesis Design

On the basis of review of literature explained above, the study proposes following hypothesis pertaining to relationship between virtual store atmosphere and online repurchase intention.

H1: There is a positive relationship between online store atmosphere and sustainable customer relationship

H2: There is a positive relationship between customized information and sustainable Customer relationship

H3: There is a positive relationship between online purchase and repurchase intention and Sustainable customer relationship.

H4: There is a positive relationship between customer online experience and sustainable Customer relationship.

H5: There is a positive relationship between AI effectiveness and sustainable customer Relationship.

5. Methodology

The methodology includes the empirical study focusing on the factors influencing adoption of digital marketing strategies in cosmetics industry. The study included primary data and respondents were randomly collected. A random sample of 200 online shoppers was taken and a questionnaire was mailed to them, out of which 140 responded. The data collected was analyzed using SPSS tool.

Instrument

An online questionnaire, containing the input variable items from the conceptual frame work will be used in google form format. A pilot questionnaire having 22 questions and covering various items has been made see the viability of the study. The items of the questionnaire will be used to measure the dependent and independent variables discussed in the stud

Sampling Technique: simple random sampling

Sample Size: 140 respondents.

Measurement

Table-1 shows number of items for measuring each variable and sources of these items and which recent studies have validated these scales. The variables were accounted for by using 5 point Likert scale indicating: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

Data Analysis Method:

SPSS method.

6. Data analysis of Cosmetics for digital marketing using SPSS

Descriptive Statistics

	Mean	Std. Deviation	Analysis N	Missing N
website_des	3.7426	.97370	136	0
Sense	3.5515	.98748	136	0
interaction	3.4412	1.04538	136	0
pleasure	3.5882	.94650	136	0
pers_inf	3.4926	1.04702	136	0
stop_pur_inconsistent_e	3.3382	1.16886	136	0
xp				
tech_not_help	3.2426	1.15146	136	0
not_auto	3.2206	1.10682	136	0
slow_tech	3.2794	1.00142	136	0
prod_not_avail	3.5515	1.07373	136	0

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.867
Bartlett's Test of Sphericity	Approx. Chi-Square	512.169
	df	45
	Sig.	.000

Communalities

	Initial	Extraction
website_des	1.000	.502
Sense	1.000	.645
interaction	1.000	.475
pleasure	1.000	.603
pers_inf	1.000	.632
stop_pur_inconsistent_e	1.000	.532
xp		
tech_not_help	1.000	.636
not_auto	1.000	.797
slow_tech	1.000	.569
prod_not_avail	1.000	.397

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.630	46.298	46.298	4.630	46.298	46.298	3.391	33.911	33.911
2	1.160	11.599	57.897	1.160	11.599	57.897	2.399	23.986	57.897
3	.854	8.537	66.434						
4	.711	7.113	73.547						
5	.566	5.662	79.209						
6	.559	5.593	84.802						
7	.462	4.624	89.426						
8	.443	4.431	93.857						
9	.315	3.149	97.006						
10	.299	2.994	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component	
	1	2
website_des	.618	-.346
Sense	.746	-.298
interaction	.627	-.287
pleasure	.744	-.225
pers_inf	.768	-.205
stop_pur_inconsistent_exp	.729	-.037
tech_not_help	.606	.519
not_auto	.614	.648
slow_tech	.702	.278
prod_not_avail	.623	.097

Extraction Method: Principal Component Analysis

a. 2 components extracted.

Rotated Component Matrix^a

	Component	
	1	2
website_des	.702	.092
Sense	.776	.207
interaction	.674	.145
pleasure	.731	.264
pers_inf	.738	.294
stop_pur_inconsistent_exp	.607	.405
tech_not_help	.176	.778
not_auto	.106	.886
slow_tech	.397	.642
prod_not_avail	.441	.450

Extraction Method: Principal Component Analysis
 Rotation Method: Varimax with Kaiser Normalization
 a. Rotation converged in 3 iterations

Component Transformation Matrix

Component	1	2
1	.802	.597
2	-.597	.802

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Correlations

		purchase _online_s ix	sense	interac tion	pleasu re	entertain ment	website_ des
purchase_onlin e_six	Pearson	1	-.056	-.130	-.152	-.096	-.064
	Correlation						
	Sig. (2- tailed)		.515	.133	.079	.266	.464
Sense	N	135	135	135	135	135	135
	Pearson	-.056	1	.494**	.578**	.440**	.488**
	Correlation						
interaction	Sig. (2- tailed)	.515	.000	.000	.000	.000	.000
	N	135	136	136	136	136	136
	Pearson	-.130	.494**	1	.410**	.332**	.316**
pleasure	Correlation						
	Sig. (2- tailed)						
	N	135	136	136	136	136	136
entertainment	Pearson	-.152	.578**	.410**	1	.332**	.316**
	Correlation						
	Sig. (2- tailed)	.079	.000	.000	.000	.000	.000
website_des	N	135	136	136	136	136	136
	Pearson	-.064	.488**	.316**	.332**	1	.316**
	Correlation						
stop_pur_inconsistent_exp	Sig. (2- tailed)	.464	.000	.000	.000	.000	.000
	N	135	136	136	136	136	136
	Pearson	.464	.488**	.316**	.332**	.316**	1
tech_not_help	Correlation						
	Sig. (2- tailed)						
	N	135	136	136	136	136	136
not_auto	Pearson	-.096	.440**	.332**	.316**	1	.316**
	Correlation						
	Sig. (2- tailed)	.266	.000	.000	.000	.000	.000
slow_tech	N	135	136	136	136	136	136
	Pearson	-.096	.440**	.332**	.316**	.316**	1
	Correlation						
prod_not_avail	Sig. (2- tailed)	.464	.000	.000	.000	.000	.000
	N	135	136	136	136	136	136
	Pearson	.464	.488**	.316**	.332**	.316**	1

interaction	Sig. (2-tailed)	.133	.000		.000	.000	.000
	N	135	136	136	136	136	136
	Pearson Correlation	-.152	.578**	.410**	1	.481**	.415**
pleasure	Sig. (2-tailed)	.079	.000	.000		.000	.000
	N	135	136	136	136	136	136
	Pearson Correlation	-.096	.440**	.332**	.481**	1	.450**
entertainment	Sig. (2-tailed)	.266	.000	.000	.000		.000
	N	135	136	136	136	136	136
	Pearson Correlation	-.064	.488**	.316**	.415**	.450**	1
website_des	Sig. (2-tailed)	.464	.000	.000	.000	.000	
	N	135	136	136	136	136	136

** . Correlation is significant at the 0.01 level (2-tailed).

CORRELATIONS

		website_des	sen se	inter action	pleas ure	per_i nf	stop_pur chase	tech_no _help	not_a uto	slow_ tech	prod_not _avail
website_des	Pearson Correlation	1	.488**	.316**	.415**	.452**	.481**	.314**	.191*	.241**	.321**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001	<.001	.026	.005	<.001
	N	136	136	136	136	136	136	136	136	136	136
Sense	Pearson Correlation	.488**	1	.494**	.578**	.516**	.440**	.324**	.288**	.420**	.452**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
	N	136	136	136	136	136	136	136	136	136	136

Interaction	Pearson Correlation	.316**	.494**	1	.410**	.497**	.356**	.187*	.267**	.426**	.303**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	<.001	.029	.002	<.001	<.001
	N	136	136	136	136	136	136	136	136	136	136
Pleasure	Pearson Correlation	.415**	.578**	.410**	1	.595**	.535**	.371**	.314**	.396**	.342**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	<.001	<.001	<.001	<.001	<.001
	N	136	136	136	136	136	136	136	136	136	136
per_inf	Pearson Correlation	.452**	.516**	.497**	.595**	1	.492**	.318**	.359**	.482**	.415**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001	<.001
	N	136	136	136	136	136	136	136	136	136	136
stop_purchase	Pearson Correlation	.481**	.440**	.356**	.535**	.492**	1	.417**	.360**	.476**	.340**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001
	N	136	136	136	136	136	136	136	136	136	136
tech_no_help	Pearson Correlation	.314**	.324**	.187*	.371**	.318**	.417**	1	.580**	.345**	.358**
	Sig. (2-tailed)	<.001	<.001	.029	<.001	<.001	<.001		<.001	<.001	<.001
	N	136	136	136	136	136	136	136	136	136	136
not_auto	Pearson Correlation	.191*	.288**	.267**	.314**	.359**	.360**	.580**	1	.559**	.346**
	Sig. (2-tailed)	.026	<.001	.002	<.001	<.001	<.001	<.001		<.001	<.001
	N	136	136	136	136	136	136	136	136	136	136
slow_tech	Pearson Correlation	.241**	.420**	.426**	.396**	.482**	.476**	.345**	.559**	1	.407**
	Sig. (2-tailed)	.005	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001
	N	136	136	136	136	136	136	136	136	136	136

prod_not_avail	Pearson	.321**	.452**	.303**	.342**	.415**	.340**	.358**	.346**	.407**	1
	Correlation										
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	
	N	136	136	136	136	136	136	136	136	136	136

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

7. Findings and Discussion

1) KMO and Bartlett's test of adequacy shows that the sample taken is a good representative of population.

2) The descriptive statistics shows that factors like website design, appeal to senses, ease in interaction, pleasure, personalized information, good technology are critical in creating positive online experience which motivates a customer to buy the cosmetics online.

3) The component matrix shows that correlation of online purchase is significant (more than 0.5) with each component of online digital experience (website design, appeal to senses, interaction, pleasure, personalized information, good technology, automation). Thus, it can be inferred that positive experience online acts as a great marketing tool and induces the customer to buy online, making online shopping a pleasurable experience.

4) The factors that effect that contribute heavily towards the digital experience of consumers are Website design, sensory experience, pleasure during online shopping, personalized information about the product with values more than 0.7 in principal component analysis.

5) The findings suggest that the customers are willing to pay more for having better online experience and thereby it helps them to increase their willingness to buy online products from the websites that are providing better experiential marketing to the customers online.

6) The implications include the application of online experience design for the customer for sustainability and retention of the customers and also the growth through the higher sales online.

7) The results of present study confirm the statistical and significant association of all determinants of proposed conceptual framework with sustained customer relationship. This research work is among rare contributions in online consumer behavior from a particular industry context (luxury cosmetics) focusing on experienced online consumers rather than concentrating on intentions of inexperienced online buyers.

8. Conclusion

This study's primary goal is to examine the connections between online store environment, personalized information, AI effectiveness, customer experience, and online repurchase intention with long-lasting customer relationships. The findings demonstrate the relationship between the dependent variable (online purchase) and the independent variable (experiential marketing components). The study is of significant importance since it explores unique dimensions of online store atmosphere (informativeness, website navigation, entertainment and website design) and focuses on variables effecting the sustained customer relationship. The fact that the data was exclusively gathered from seasoned online shoppers who have made at least one transaction in the previous six months is another distinctive feature of this study. This research not only contributes to the existing body of knowledge, but it will also suggest some practical implications for marketers to retain their clients.

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Cybernetics: A Transformative Platform in Achieving G20 SDS

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ABSTRACT

This century has faced many modern problems i.e. how to fulfil the quality food, how to secure the data, how to increase the food productivity, how to reduce the labor cost, how to improve technological enhancement with less interference etc. Thus we need some technology which can be operated by self or give solution by itself. These may be considered as some kind of Autonomous technology for Sustainable Development Sectors (SDSs). Following this path, a model has been proposed which is based on mathematical approach, theoretical system like controlling some devices, named as Cybernetics. It is used in many different fields like: military, aerospace, robotics, medical, vehicles etc. Cybernetic is able to adapt the human control over the device such that it can consummate good feedback by getting robustness and good performance of the system. There are several modern applications available in the current times but Cybernetics will still carry forward for the next decade. This paper is about the control and necessity of cybernetics that how it gives us the electronic facilities in an efficient way. It is also used for detecting, scanning and analyzing the system as well. The essence of the Cybernetics approach is to understand the functions and processes of systems capable of receiving storing and processing information and then using it for its own control.

Keywords: G20, Cybernetics, Autonomous Technology, Cybernetic Transportation System (cts), Control System, Sustainable Development Sectors (sdss).

1. Introduction:

The G20 or Group of Twenty Nations work, in addition to its core economic mandate, encompasses action on key global social and environmental challenges, contributing to the provision of global public goods and supporting the integration of low-income and developing countries into a sustainable global economy. The G20 comprising 19 countries and the European Union has collectively contributed to Sustainable Development Sectors (SDS) defined in the Action Plan and at the G20's current priorities across the three dimensions of sustainable development – economic, social and environmental while also examining how the G20's work on cross-cutting issues such as gender equality is helping to deliver results [25]. Actions mandated by the G20 in support of the global goals have increased in quantitative terms since the adoption of the G20's 2030 Action Plan. The G20 has put particular emphasis on the sustainable use of natural resources with focus on water in 2017, soils in 2018, innovation in 2019. The G20 aligned its goal with the 2030 Agenda's to reduce to less than 3% the cost of remittances and to eliminate remittance corridors with costs higher than 5%. Achieving this goal would, at a minimum, generate an extra USD 25

billion per year by 2030 [25].

Cybernetics is the study which is able to control and communicate between human and machine [15] [17]. It focuses on how a system processing the data, responding to it, changing for better desired functioning using the previous feedback [18]. It is currently imposed on scientific field also i.e. applied statistics [4]. The Viable System Models (VSM) are now capable to manage the complex system in a dynamic way by its enhancing situations using cybernetics [1] [2] [20]. It is also focus on enhancing the natural systems such that they can have their own objectives instead of controlling by the human. We should impose the study of cybernetics such that it can reduce the manual control as well as the compensatory behavior. For the advancement of the theory, tools and models, we need a research effort which contains some target goals. In that research, it contains some questions,

- I. How to use the preliminary study of the future task constraints?
- II. What are the factors and methods that can operate the adjustment or adaptation?
- III. What is the scale of human adjustment in variable situation?

IV. What are the control theories and techniques that can identify the system and help to know the time varying and non-linear manual control?

This paper will contain a brief knowledge about the cybernetics with its fundamentals, classical control theories, problems and its solutions, applications etc. It will give a brief knowledge about the cybernetics and its frameworks. It also includes the limitations, implications, findings as well as the purpose of Cybernetics. Overall, it will make an optimal opportunity to get knowledge about the cybernetics such that anyone can get a brief understanding easily from this article. It focuses on how system uses the information for its process, controlling the system actions, models etc. It can be applied on any kind of physical, biological and technological model easily in a reasonable manner. Cybernetics is mainly specified as the goal directed models and functional systems that have the control relation.

2. Discussion:

Cybernetics is the combinations of Information theory, control theory, mathematical communication theory, General system theory and system analysis, Artificial intelligence (AI), optimization, operation research, Data analysis and decision making. It is based on the understanding the objective to the emergence of self [16]. The first order cybernetics is for the observed system and the second order cybernetics is for the observing systems [18]. The second order cybernetics contains self-organization, autopoiesis, recursiveness, cognition and reflexion [15][28].

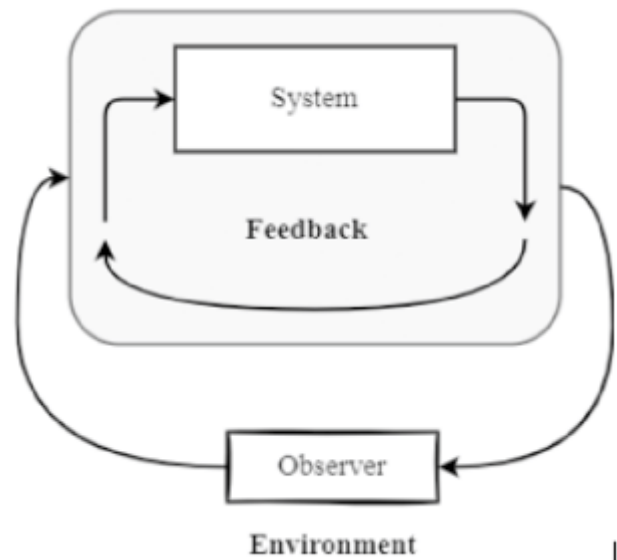
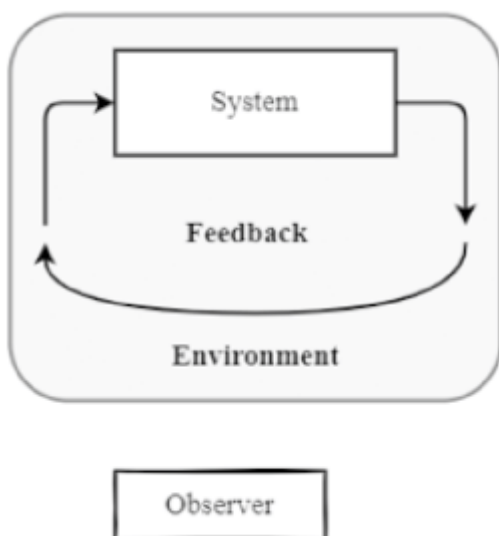


Fig.1: First-order Cybernetics (Left) and Second-order Cybernetics (Right), illustration by Zihao Zhang [23]

3. Applications:

Nowadays the most demanding developments are the systems which is the complex and adaptive system growth, including the power of modern stimulated computer system [12] [15]. It is developed for the ease our life rather than the unusable profit of greedy people [3]. There are several applications of Cybernetics i.e.

I. Service System:

In this century, this sector is increasing day by day with the help of a large number of workers in the industry. It has massive amount of industries including agriculture, mining, manufacturing etc. From the SDGs number 1 and 2, we all know there should not be any poverty exist with zero hunger. According to these goals, we have to develop the service system for the peoples help. With the help of modern tools like: internet, cybernetics, information technology, computer etc., we can enhance this sector and services rapidly for economic growth. As a result, these can illustrate the working approach and analyze the system for a different service owner. The previous classical services are based on the pre-planned decision rules. But the modern services are based upon the real time analysis and adaptively [21].

II. Infrastructure and transportation system:

The rapid increasing population and vehicles are very difficult to manage on the real time scenario. For achieving the Sustainable Development Goals (SDGs), we need to target the zero environmental

impact due to the vehicles and engines [24]. In the SDG goals number 9 (nine), 11 (eleven), 13 (thirteen) out of 17 (seventeen) goals tell us about the infrastructural innovation, the sustainable development of cities as well as the climate safety. For that purpose, we need some kind of Cybernetic Transportation System (CTS) or Intelligent Transportation System (ITS) by which we can resolve those problems efficiently [8]. Cybernetics is embedded on this sector (like: airport, vehicles, roads, bridges etc.) with the traffic sensor, emergency signal and traffic control. Its main objective is to provide safety, organizing vehicles on the urban areas, rapid transportation growth etc. It can evaluate the sensors information for managing transport by using the control algorithms in different real time situation.

III. Environmental and Energy Systems:

We all know that from the SDGs number 7, 13 and 16 that we have to provide the clean energy, to look after the climate and to give human a peaceful place with its human rights. On earth, the biological life is mainly classified into two categories i.e. plant life and animal life. Both of us live within this environment since 65 million years. We all know that water, atmosphere and land are main three components in the environment on which the whole biological system is dependent. This biological system is affected and grinded by the most of the transportation vehicles and industries which emit the dangerous gases in the form of energies. Cybernetics classified the system into the mathematical form for quantitative analysis of the biological environment. Such that it could be understandable the methodological generalization of environment components functioning of the complex system [14]. It makes a practical awareness of maintaining the environment in the form of complex system with multi functioning abilities. It also helps in the agriculture of Cyber Physical Social System (CPSS) which provides to manage the production on the solar greenhouse [13].

IV. Sustainable Systems:

The increasing human population in the world is going to the way of scarcity of resources in the nature. The resources i.e. water, metal, minerals, agricultural land etc. are continuously devoured by the human [21]. There is a huge interconnected and complex problem which is affecting our environment continuously. The main question in this, "Can we make our planet sustainable for future generation?" So it's our duty to make a balance between the society and environment by the sustainable relationship.

Such that there will be an imaginary limitation or boundary of the utilization of the earth's resources. By this, the human activities on the environment can be reduced. For the modernization and industrialization, we need the heating system for cooking, agriculture, transportation, lighting, industry etc. So, there are some human design and cybernetics systems which produce the energy to assure the energy demand of many complex systems or vehicles such that we can reduce the pollution in the environment and make a sustainable society. It is used to make the society sustainable in an efficient and effective way rather than the conventional method.

V. Defense and Space Systems:

Since the last years, there are many major changes happened in the defense as well as the space systems. We need a well-managed and complex military system to give the required equipment to the armed forces for defense. When any country plans to impose any military campaign, they have to keep in mind the life process of the entire event occurrences such that it can work with a structured and organized way. A scientist named as Wiener, gave his precious lifetime to make it autonomous such that it could change its position according to the enemies. But at the initial age, the tests were mostly unsuccessful. But this research helped the armed force to make the feedback systems, communication as well as the control systems which had been turned into the Cybernetics system later. It gave the anti-aircraft guns for automatically shooting down of the enemies plans [10]. We got the credible response of bombers using the cybernetics. Thus using this, we had created the world's first computer network system named Semi-Automatic Ground Environment (SAGE) [11]. Now this SAGE is helping us to launch the ballistic missiles as well. The stability, durability and flexibility properties of the network and radar had been maintained with the idea of cybernetics [5].

VI. Cyber Security:

Nowadays the computer security and cybernetics are very much necessary with growing phase of research in our modern age [9]. In SDGs 16, we have noticed we have to live in the society in a peaceful and justice manner. Initially it is created for the regulated system for the system stability [22]. It includes the procedures, training, security policies, risk management etc. There may be various attacks like: malicious scripts and codes, virus, malware, spam, vulnerability, unauthorized access etc. To protect the system or network from the cyber threats, there are

few elements in system needs to fulfill the integrity, availability, non-repudiation, confidentiality, authenticity. There are also few techniques of authorization person or identifying person by the data encryption, authentication and access control.

VII. Communication and Control:

Communication is an important part in our modern day life by expressing ideas, acquiring knowledge, transferring knowledge etc. For achieving the SDGs 17 that is making the good partnership between everyone to achieve all the SDG goals. That will not be possible if there is any gap in the communication

between countries. It is connected through a chain between two or more communicators. Most of the organization fail or face the problems because of the less communication to the employ so that they don't get things crystal clear [7]. In every aspect of life, we need an appropriate, meaningful, understandable and effective communicating path. Because of the different background knowledge, there may be occurred an inconsistency and incomprehensible when a business man will meet an IT man during some professional work. So, Cybernetics can face the problem with understanding its arguments.

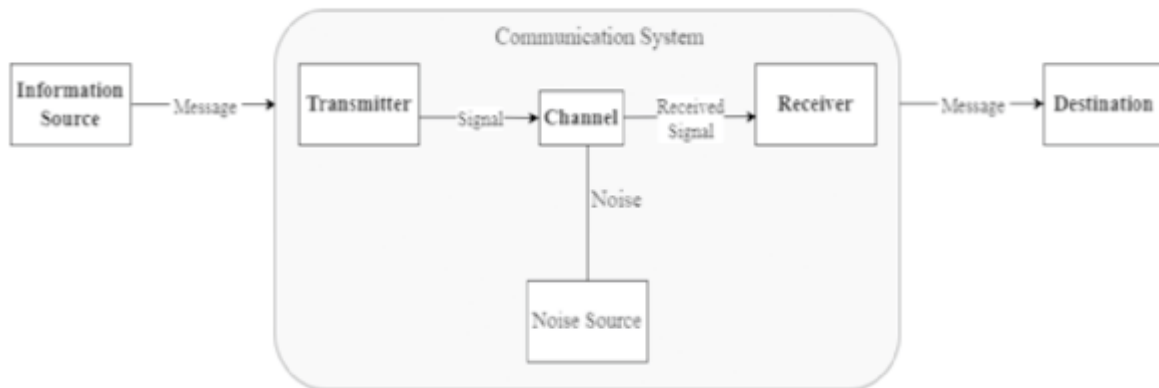


Fig.2: Communication Process Model [6]

VIII. Feedback System:

All the sector of technologies and business must need a feedback system to manage successfully.

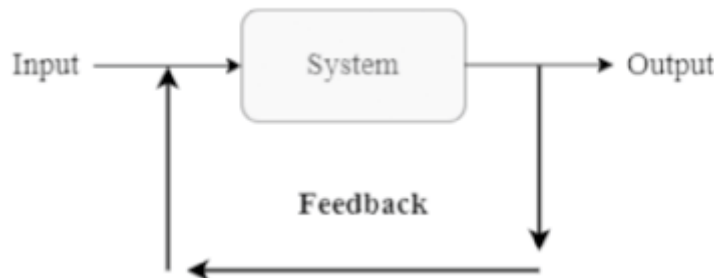


Fig.3: Feedback system

Nowadays computers are connected to the internet and it provides some extraordinary tools and powerful search engines to all the information for internal as well as the external analysis. Thus, internet is a complex and powerful feedback system. It can improve the financial and technical part of any sector. Using the cybernetics, artificial intelligence and machine learning, we can predict the customer interests, buying things pattern, market prediction, target audience etc.

I. Science and Technology:

In the technical manufacturing sector, safety and security are very much needed so there are different type of safety systems available. In 1970, a scientist Hodge had proposed an educational model which gives a simple and understandable stream of educational process in any organization [19]. Using the cybernetics, we can separate the physical and biological systems. This scenario is very much helpful in the science field. It can also provide the

complex and probabilistic systems in the technical field which can enhance our life in an efficient way.

4. Conclusion:

To achieve all the 17 SDG goals and 169 targets, we need to give our 100% effort in the society such that our future generation can be benefited. All the targets need to be fulfilled by 2030. This paper includes all the possibilities to gain the SDGs with respect to the Cybernetics. Cybernetics has the ability to optimize complex problems, enhancing the AI, mathematical communication theory, control theory, information theory, data analysis and decision making etc. It provides the feedback system for enhancing the defense sector and technologies. It also helps us in various and efficient way to get the targets with time. This paper also contains the applications of cybernetics, how it has been implemented to reduce zero hunger, no poverty, no pollution etc. Hence, it's our responsibility to participate in this noble purpose. Cybernetics can create the systems of the ecological view during the war time as well as the post war time. It has a large contribution in the communication channel, AI, observing the animals, management science, social science, radar, aircraft etc. All the automated and self-observing tools or systems are used the cybernetics for enhancing its application and accuracy. Cybernetics helps us to use the complex systems in an efficient way. We have noticed that cybernetics has a wide applications in our society for achieving the SDGs.

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G20 contribution to the 2030 Agenda PROGRESS AND WAY FORWARD, UNDP OECD

The Impacts of Digital Marketing & Business Challenges

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ABSTRACT

In this digital age, marketers face a variety of obstacles in addition to numerous opportunities. The use of electronic media by marketers to market their goods or services is known as digital marketing. Attracting customers and enabling them to engage with the company through digital media is the primary goal of digital marketing. This essay concentrates on the Digital marketing is important for both marketers and consumers. We looked at how sales of both small and large companies were affected by digital marketing. Also, the distinctions between conventional marketing and digital marketing are discussed based on our research. This study has discussed numerous forms of digital marketing, as well as its efficiency and effects on a company's sales. One hundred fifty small businesses and fifty business owners make up the investigated sample, which was chosen at random to demonstrate the effectiveness of digital marketing. The collected data has been examined using a variety of statistical methods and tools.

Keywords: Digital Marketing, Promotion, Sales, Impact, Customer Reach.

1. Introduction

Today One sort of marketing that is used frequently to advertise goods or services and quickly reach consumers online is digital marketing. Online marketing is just one aspect of digital marketing, which also includes offline channels. Mobile devices (including SMS and MMS), social media marketing, display advertising, search engine marketing, and numerous other digital media platforms are all included. Consumers can obtain information through digital media at any time and from any location. Consumers may now follow what the media, friends, associations, peers, etc. are saying about brands in addition to what businesses say about them thanks to the existence of digital media. The phrase "digital marketing" refers to a broad range of advertising strategies used to connect with consumers online. The term "digital marketing" refers to a broad range of service, product, and brand marketing strategies that primarily make use of the Internet as a primary promotional medium in addition to mobile devices, traditional TV, and radio. Consumers can share their digital images with pals online thanks to Nikon Photo Gateway. Email newsletters are used by the Titans brand Raga to stay in touch with its customers and so aims to increase brand loyalty among customers. The re-subscription rate for magazines like Example Film fare can be increased by using emails and SMS to engage and direct clients to the Internet. Marketing

professionals are bringing companies closer to consumers' daily lives. The importance of customers' evolving role as value co-producers is rising (Pralhad and Ramaswamy, 2004). According to Khan and Mahapatra (2009), technology is essential to raising the calibre of services offered by the business units. Electronic marketing (EM), according to Hoge (1993), is the transfer of products or services from a vendor to a buyer using one or more electronic techniques or media.

Telegraphs were first used in e-marketing in the nineteenth century. Electronic media have taken over as the primary marketing force with the development and widespread use of the telephone, radio, television, and later cable television. McDonald's uses the internet to strengthen relationships and brand messages. In addition, the study may also explore the challenges and limitations of digital marketing and provide insights into how businesses can overcome these challenges to achieve success in their digital marketing efforts. Ultimately, the objective of studying the impact of digital marketing on business is to provide businesses with the knowledge and tools they need to succeed in today's digital marketplace. To keep customers near to themselves at all times, they have created online communities for kids, such as the Happy Meal website (Rowley 2004). According to research by Reinartz and Kumar from

2003, a company's mailing efforts are positively correlated with its long-term profitability. The main benefits of social media marketing are cost savings and increased reach. On general, the cost of a social media platform is less than the cost of other marketing platforms like in-person sales or sales aided by middlemen or distributors. Moreover, social media marketing enables businesses to connect with clients that would otherwise be inaccessible due to the spatial and temporal constraints of current distribution methods. In general, social media's key benefit is that it may help businesses expand their reach and cut costs (Watson et al. 2002; Sheth & Sharma 2005).

Social media marketing, according to Chaffey (2011), entails "encouraging customer communications on either on the business's website or through its social media presence. The use of social media by businesses to communicate with their target audience while avoiding the costs associated with traditional marketing's publishers and distributors is one of the key components of digital marketing. To put it simply, "marketing online, whether via websites, online ads, opt-in emails, interactive kiosks, interactive TV, or mobiles" is what is meant by the terms digital marketing, electronic marketing, e-marketing, and Internet marketing (Chaffey & Smith, 2008). Customer information satisfaction (CIS) for digital marketing, according to Giese and Gote (2000), can be thought of as the sum of affective reactions of varying intensity that occur after consumption and are sparked by key elements of sales activities, information systems (websites), digital products/services, customer support, after-sales service, and corporate culture. Waghmare (2012) said that many Asian nations are utilising e-commerce through opening up, which is crucial for fostering competition and the spread of Internet technology. Zia and Manish (2012) discovered that e-commerce is currently what drives consumers in metropolitan India. These customers shop for consumer items, literature, and vacation online. Although spending online is still relatively low, 60% of metropolitan Indian consumers already shop

online at least once every month. E-marketing is the "application of digital technologies - online channels (web, e-mail, databases, plus mobile/wireless & digital TV) to contribute to marketing activities aimed at achieving customer acquisition and retention (within a multi-channel buying process and customer lifecycle) by improving customer knowledge (of their profiles, behaviour, value and loyalty drivers) and further delivering integrated communications and online services," according to Dave Chaffey (2002). The relationship marketing notion is reflected in Chaffey's definition, which emphasises that the business model, not technology, should be the driving force behind e-marketing. All forms of social media offer the chance to introduce a business or its products to active communities and people who might be interested (Roberts & Kraynak, 2008). According to Gurau (2008), social media marketers have both opportunities and obstacles in the online marketing landscape Top of Form.

2. Objective of Study:

This essay's major goal is to determine how digital marketing has affected consumers overall in the highly competitive digital market of today. These supporting goals are listed in order:

- To display the many components of digital marketing;
- Should concentrate on the fundamental comparison of traditional marketing and digital marketing;
- To talk about how different types of digital marketing affect the company's sales and other activities;
- To educate customers about the different benefits of digital marketing

3. Theoretical and conceptual framework

a. Traditional Marketing vs Digital Marketing

The most prevalent and well-known type of marketing is traditional marketing. Traditional marketing is a non-digital strategy used to advertise a company's goods or services. On the other side, digital marketing is the promotion of goods or services through the use of online platforms to reach consumers. Below are some comparisons:

TRADITIONAL	DIGITAL
<p>Includes:</p> <ul style="list-style-type: none"> • Print Media (newspaper and magazine ads, newsletter, 	<p>Includes marketing effort anchored electronic device such as:</p> <ul style="list-style-type: none"> • Websites

<p>brochures and other printed material)</p> <ul style="list-style-type: none"> • Broadcast media (such as TV and radio ads) • Direct mail (Including fliers, post cards, catalogues) • Telemarketing 	<ul style="list-style-type: none"> • Social networking sites • Content marketing • Banner ads • Google ads • Video marketing
<ul style="list-style-type: none"> • Proven techniques with high success rate • Long-standing initiatives that the public already understands • Metrics for measuring success 	<ul style="list-style-type: none"> • Cost-efficient methods of marketing • Unprecedented audience reaches • Allow direct response from intended audience.



Traditional Marketing	Digital Marketing
Traditional Marketing is very expensive compare to digital.	Digital Marketing Is cost effective than traditional
You have no choice to target relevant set of customers, it is a mass communication	Easy to find the target customers with analytics and other source of tools
You will end up pumping the budget to mass crowd, no choice to select the customers	Based on the relevant customers the budget can be planned and optimally utilized
Promoting products or service through TV, Radio, Print media, PR activity, door to door marketing, telemarketing	Promoting a product over the internet with Social Media, Smart phones, Google ads
You can't track the results	You can track the results and improve the campaigns based on results

Promotional activities on the Internet, social media, mobile devices, and other channels could all be employed as part of a business's digital marketing plan. Electronic billboards, digital radio and television stations, etc. Digital marketing is a branch of traditional marketing that places products on contemporary digital channels, such as downloadable music, and communicates with stakeholders, such as customers and investors, about brands, products, and company growth.

a. Several aspects of digital marketing

Digital marketing is created using a variety of factors. Electronic devices are used in every sort of operation. The following list includes the key components of digital marketing:

i. Online advertising

Digital marketing includes online advertising, which is a crucial component. It is also known as online advertising, and it allows businesses to spread the word about their goods and services. The content and advertisements that are most relevant to customer interests are provided by internet-based advertising. Publishers post information about their goods or services on their websites so that users can receive it for free. Online advertisers need to run more effective and pertinent adverts. The corporation effectively manages its budget and has complete control over time through online advertising.

ii. Email Marketing

Email marketing is the practise of communicating with current or potential customers via email about products or services. Direct digital marketing is used to send adverts, create brand recognition, and cultivate brand and customer loyalty. With this aspect of digital marketing, a business may easily promote its goods and services. Compared to advertising or other forms of media exposure, it is relatively inexpensive. By designing an appealing combination of visuals, text, and links on the products and services, a company may capture the customer's full attention.

iii. Social Media

One of the most significant digital marketing channels today is social media marketing. It is a computer-based platform that enables users to generate and communicate concepts, details, and visuals related to the goods or services offered by the business. Internet users continue to spend more time

on social media sites than any other kind, according to Nielsen. Google+, LinkedIn, Facebook, and Twitter are social media marketing networks. Via Facebook, a business can advertise events involving its goods and services, run promotions in accordance with Facebook policies, and look into new opportunities. A corporation can boost brand awareness and visibility through Twitter. It is the most effective instrument for promoting a business's goods and services. Professionals create profiles on LinkedIn and share information with others. A corporation can enhance their LinkedIn profile so that professionals can visit it and learn more about the company's goods and services. In comparison to other social media platforms like Facebook and Twitter, Google+ is a more effective social media network. It is more than just a straightforward social networking platform; it is also a tool for authorship that connects web content to its creator.

iv. Text Messaging

It is a mechanism for mobile and smart phone devices to convey information about the goods and services they offer. A business can transmit information via phone devices in the form of text (SMS), images, videos, or music (MMS). marketing via mobile devices In Europe and several regions of Asia in the early 2000s, SMS (Short Messaging Service) grew in popularity. Order confirmations and shipment notifications can be sent through text message. SMS marketing efforts produce quicker and more significant outcomes. Using this method, businesses can be sure that their marketing messages are seen by their clients whenever they send them and in real-time. A company can design a questionnaire to get important client feedback that will help them improve their goods and services in the future.

v. Affiliate Marketing

Performance-based marketing includes affiliate marketing. In this kind of marketing, a business pays affiliates for each visitor or client they bring in thanks to the marketing campaigns they carry out on its behalf. The merchant (also known as "retailer" or "brand"), the network, the publisher (sometimes known as "the affiliate"), and the client are the four main participants in the industry. A secondary tier of businesses, including affiliate management companies, super-affiliates, and specialised third party vendors, have emerged as a result of the market's increased complexity. Affiliate marketing may be approached in one of two ways: either a company can sign up to become another company's

affiliate or it can provide an affiliate programme to others. If a business wishes to promote an affiliate programme, it must pay affiliates a commission for each lead or sale they bring to the business' website. The major objective of the company is to identify affiliates who can penetrate untapped markets. A company that publishes an e-zine, for instance, would make a suitable affiliate because its readers are thirsty for information. So, offering one's service through a "reliable" organisation can attract prospects that it might not have otherwise attracted.

vi. Search Engine Optimization (SEO)

The technique of improving a website's or a web page's visibility in a search engine's "natural" or unpaid ("organic") search results is known as search engine optimization (SEO). A website will often have more visitors from search engine users the sooner (or better placed on the search results page) and more frequently it appears in the search result list. SEO can target a variety of search types, including image search, local search, video search, academic search, news search, and vertical search engines tailored to a particular industry.

vii. Pay Per Click (PPC)

Using search engine advertising to drive traffic to your website rather than "earning" it, is known as pay-per-click marketing. Pay per click benefits both advertising and searchers. It is the ideal method for business advertisements because it results in lower costs and higher involvement with the goods and services.

b. Benefits of Digital Marketing for consumers

With the quickening pace of technology advancement, digital marketing has altered consumer purchasing patterns. It has provided consumers with a number of benefits, including the following:

1. Keep current on products or services

Using digital marketing technology, customers can keep up with corporate news. Many consumers may now access the internet from anywhere at any time, and businesses are constantly updating information about their goods or services.

2. Increased involvement

Customers can participate in the many operations of the business through digital marketing. Customers can visit the business' website, read details about the goods or services, make purchases online, and leave reviews.

3. Well stated information regarding the goods or services.

Consumers can obtain detailed information about the goods or services through digital marketing. The information obtained from a salesperson in a retail establishment has a small probability of being misinterpreted. Nonetheless, shoppers may rely on the Internet for thorough product information to help them decide what to buy.

4. Easy to compare to others

The biggest benefit for the customer is that they may compare products or services from many providers in an efficient and cost-effective manner because so many businesses are attempting to advertise their goods or services using digital marketing. Consumers can learn more about the goods or services without having to go to numerous retail locations.

5. 24/7 retail

There are no time restrictions for when a buyer wants to buy a goods online because the internet is accessible 24/7.

6. Provide information about the goods or services.

Viewers have the opportunity to share the product or service's content with others thanks to digital marketing. With the use of digital media, it is simple to communicate with others about the features of a product or service.

7. Evidential Pricing

Prices are made very plain and transparent for the clients by the company when they are displayed through digital marketing channels for items or services. Customers always benefit from the company's frequent pricing modifications or special offers on their products or services because they may instantly learn about them by looking at any one kind of digital marketing.

8. Allows for immediate purchase

With traditional marketing, consumers select the appropriate physical store first and then view the advertising before making a purchase. Yet, clients can instantaneously buy the goods or services through digital marketing.

4. Methodology of the Study

Methodology is the result of a methodical and theoretical review of the many approaches to determine whether or not a given approach is appropriate for use in a given field of study. It

frequently includes ideas like stages, theoretical models, paradigms, and quantitative or qualitative approaches. Both primary and secondary data sources were used to conduct this investigation.

Primary sources

A primary source is a place where we can get first-hand knowledge or authentic data on a subject. The structured questionnaire was used in conjunction with an interviewing strategy to gather primary data.

Secondary sources

A secondary source is a place where we obtain information that has already been gathered. We have

gathered secondary data from media and article sources, as well as the firms' public financial statements. We chose 150 businesses at random that use a digital marketing system to offer their products to clients in order to conduct this study. Also, we gathered information from 50 executives from the sample company and other organisations to find out what they thought about the efficacy of digital marketing.

Several statistical methods and approaches have been used to organise, clarify, and evaluate the collected data and information. Results from this investigation are presented both descriptively and analytically.

		Increased Sales	Online Advertising	Online Advertising	Social Media	Text Messaging	Affiliate Marketing	Search Engine Optimization (SEO)	Pay Per Click (PPC)
Increased Sales	Person Correlation r	1	.835	.867	.858	.65	.59	.895	.595
			.075	.063	.075	.315	.351	.088	.354
		150	150	150	150	150	150	150	150

We may infer from the above table that every aspect of digital marketing is favourably associated to an increase in sales. It shows that every aspect of digital marketing is successful. Affects the company's sales. As the values of r for online advertising, email marketing, social media, and search engine optimization (SEO) are, respectively, .869, .873, .840, and .840, they are all strongly positively correlated with an increase in sales. Text messaging, affiliate marketing, and pay per click (PPC) all have r values

of .667, .560, and .560 respectively, which likewise indicate a weakly positive connection with rising sales.

5. Digital Marketing Analysis

Due to the widespread use of digital media, customers can get information whenever and wherever they want. In the past, all the information customers received about certain goods or services was what the corporation wanted them to know.

Model	R square	F
Stay updated with products or services	.712	122.117
Greater engagement	.518	51.276
Clear information about the products or services	.632	81.254
Easy comparison with others	.649	85.141
24/7 Shopping	.739	142.868

Share content of the products or services	.659	91.498
Apparent Pricing	.638	83.962
Enables instant purchase	.667	96.028

We may infer from the above table that practically all of the significant variables greatly contribute to the explanation of the link between the variable and digital marketing. For instance, 71.12% of digital marketing explains how to stay informed about products or services, and the remaining 28.20% is described by other factors. Digital marketing accounts for 51.80% of the difference in engagement, with other factors accounting for the other 48.40%. Digital marketing accounts for 64.90% of the

explanations for the items or services, while the remaining 37.10% are explained by other factors. Also, the strength of the model is indicated by the F value, which is larger than 80 in the table above.

a) Coefficient of Different Variables

This is a discussion of the coefficients of various variables in respect to independent variables:

Model	Unstandardized coefficients		Standardized coefficients	t	Sig
	B	Std. Error	Beta (β)		
Constant	1	.215		4.469	0
Digital Marketing	2.882	.261	.847	11.051	0
Dependent Variable: Stay updated with products or services					
Constant	1	.254		3.937	0
Digital Marketing	2.206	.308	.0719	7.161	0
Dependent Variable: Greater engagement					
Constant	1	.248		4.04	0
Digital Marketing	2.706	.3	.793	9.014	0

Model	Unstandardized coefficients		Standardized coefficients	t	Sig
	B	Std. Error	Beta (β)		
Constant	1	.215		4.469	0
Digital Marketing	2.882	.261	.847	11.051	0
Dependent Variable: Stay updated with products or services					
Constant	1	.254		3.937	0
Digital Marketing	2.206	.308	.0719	7.161	0

Dependent Variable: Greater engagement					
Constant	1	.248		4.04	0
Digital Marketing	2.706	.3	.793	9.014	0
Dependent Variable: Clear Information about the product or services					
Constant	1	.234		4.275	0
Digital Marketing	2.618	.284	.8	9.227	0
Dependent Variable: Easy compare with others					
Constant	1	.215		4.649	0
Digital Marketing	3.118	.261	.865	11.953	0
Dependent Variable: 24/7 Shopping					
Constant	1	.223		3.816	0
Digital Marketing	2.588	.271	.81	9.565	0
Dependent Variable: Share content of the products or services					
Constant	1	.262		3.816	0
Digital Marketing	2.912	.318	.798	9.163	0
Dependent Variable: Apparent Pricing					
Constant	1	.24		4.165	0
Digital Marketing	2.853	.291	.817	9.799	0

Coefficients

Model	Unstandardized coefficients		Standardized coefficients	t	Sig
	B	Std. Error	Beta (β)		
Constant	1	.215		4.469	0
Digital Marketing	2.882	.261	.847	11.051	0
Dependent Variable: Enables instant purchase					

Coefficients

Unstandardized Coefficients (B) show what would happen to the dependent variable if the independent variable was zero (0). Here, the cost to stay informed about items or services if we don't employ digital marketing will be 2.882. Standardized Coefficients (β) show what will happen to the dependent variable if the independent variable is increased by 1%. In this case, if 1% of people use digital marketing, then

84.70% of people will keep informed about items or services.

6. Conclusion

Numerous businesses worldwide have made using digital channels for marketing an integral aspect of their strategies. These days, even small business owners have access to very effective and affordable marketing strategies for their goods and services. One

such strategy is digital marketing, which has no geographical restrictions and can be used to supply goods through e-commerce channels. The corporation can advertise the company and its goods and services using a variety of devices, including smartphones, tablets, computers, televisions, gaming consoles, digital billboards, and media, including social media, SEO (search engine optimization), videos, content, e-mail, and much more. If user demands are prioritised, digital marketing may be more successful. Because it takes time to construct its armour, benefits from digital marketing won't also happen without effort and experimentation (and error). All digital marketing campaigns should have the guiding principles of "test, learn, and develop" at their core. To determine the optimal strategy for improving digital marketing success, businesses should develop creative customer experiences and targeted media tactics.

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An evaluation of Open Network for Digital Commerce (ONDC) implementation for MSMEs in India.

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ABSTRACT

The Department for Promotion of Industry & Internal Trade of the Government of India founded the private, non-profit firm Open Network for Digital Commerce to create open networks for e-commerce. India's e-commerce environment is anticipated to change as a result of the government-imposed Open Network Digital Commerce (ONDC) platform. Customers and sellers will be able to interact and transact online independently of the app or platform they are using. This platform seeks to provide new opportunities, restrain digital monopolies, and assist single proprietors, micro, small, and medium-sized businesses, and other smaller businesses in joining online marketplaces. The purpose of this paper is to illustrate the benefits that ONDC provides to MSMEs—Micro, Small, and Medium-Sized Enterprise, while simultaneously posing a challenge to the major e-Commerce players yet an advantageous platform to all digital businesses.

Keywords: ONDC, MSMEs, e-Commerce players.

1. Introduction

Digital commerce is here to stay and is en route to taking over as the main method by which most people shop. By 2023, e-commerce is expected to account for 22% of all retail sales, up from 14.1% in 2019 and more than doubling the 10.4% figure from that year. Online shopping may be influenced by COVID-19, however the trend existed long before the pandemic. Digital commerce provides convenience and other benefits over traditional retail outlets, such as 24/7 access and the absence of traffic, parking, or crowds. These traditional retail outlets are mostly MSMEs which are assisted through ONDC to leverage their businesses creating huge impact in the market. The aim of ONDC is to create new opportunities, decrease digital monopolies, as well as enable micro, small, and medium-sized businesses and small traders by making them online. This way it became advantageous to MSMEs and increased competitiveness to the major e-Commerce players in the market. Besides, it creates an open, interoperable network for MSMEs where buyers and sellers can conduct transactions without being on the same platform. This network can contain a variety of different types of Network Participants, each managing specialized portions of the e-commerce value chain, due to disaggregating and interoperability, which make it simple for diverse

platforms to communicate with one another thereby making their businesses digital.

2. Literature Survey

The advantages and disadvantages of ONDC as a network-based platform were highlighted and a review of ONDC's digital warfare in India taking on the e-Commerce giants have been discussed in this section by Bibhu Dash et al. (2022) [1], An entire overview of ONDC as an emerging area in the area of e-Commerce technology was detailed in this paper P. R. Venugopal et al. (2022) [2]. A. Shaji George et al. (2022) [3] explains the ONDC concept of democratizing digital commerce and curbing digital monopolies in India.

Implementing ONDC

Having a structured methodology is helpful to ease up the process in terms of understanding and implementing the ONDC which is explained below.

The implementation of ONDC is divided into 4 steps:

- Institutional setup
- Role of ONDC entity
- Governance
- Implementation strategy

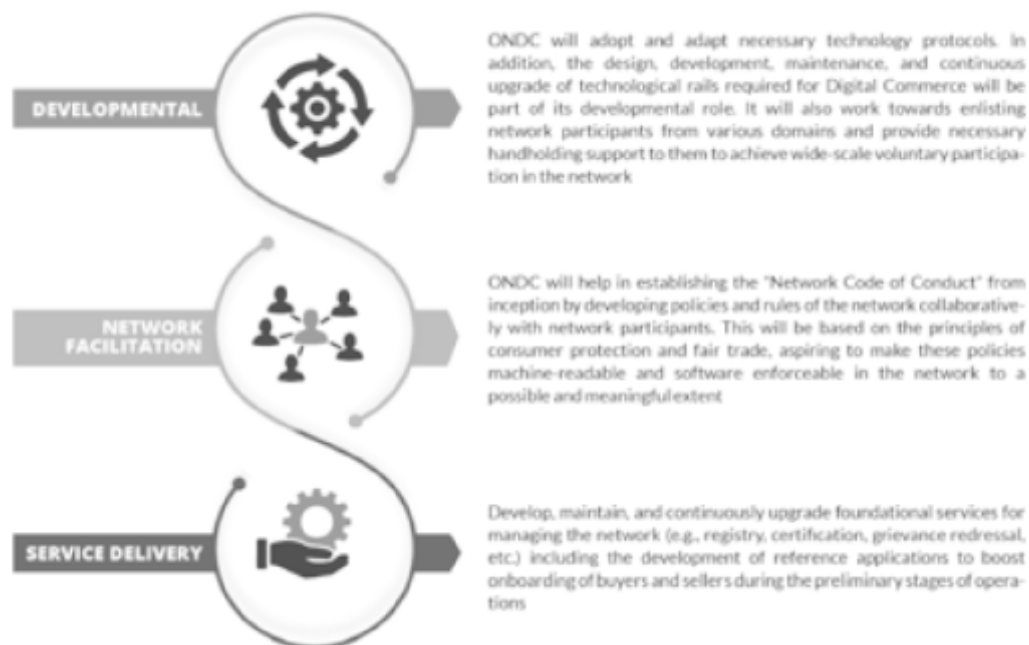
A. Institutional setup

The human capital and the independence of the

management to excel and transform the market. This is also subjected to sound corporate governance norms as in section 8 company thereby removing any incentive for the owners to drive for profit maximization and to retain its purity of intent of establishing a public good.

B. Role of ONDC Entity

Open Network for Digital Commerce entity will be responsible for three roles as shown in figure 1 below:



Source: ONDC Strategy Paper

Figure 1: Role of Open Network for Digital Commerce entity

C. Governance

The ONDC as an organization will operate under the regulatory supervision of the current framework given by the pertinent Ministries that have an impact on digital commerce. By jointly creating network policies and regulations based on the values of consumer protection and fair trade from the outset, ONDC, the network enabler, will assist in establishing the Network Code of Conduct. In order to do this, ONDC may create a council with representation from network users who would formally participate in the creation and implementation of network rules and guidelines.

All network members must comply with a basic framework of mutually approved rules and regulations provided by ONDC as the Network Facilitating organization. The ONDC will create a user council made up of members of the network participants, users, and subject matter experts in order to continuously improve network rules and

policies enabling speedy adoption of the network by a larger set of participants and users. Therefore, in the context of its function as a network orchestrator, ONDC might expand on the preceding concept of a self-regulatory organization.

D. Implementation Strategy

The need for implementing ONDC on a population scale to turn it into a public utility is a long-term strategy given the variety of use cases and participants in the ecosystem. The ONDC will confront difficulties in establishing confidence among small and large digital commerce enterprises, managing user expectations, and managing customer and seller fraud/issues given the revolutionary change it will bring to the way the industry currently functions. Therefore, the ONDC's initial phase needs to be implemented as soon as possible in order to obtain acceptance and identify relevant practical factors for implementing it on a broader scale. Technology, business, and institution building are the three main

focuses of the implementation plan for the ONDC execution. Further, it has been focused as a short-term and long-term strategy as explained in the strategy paper of ONDC.

3. Benefits to MSMEs

Although the Unified Payments Interface (UPI) is on track to surpass the \$100 trillion mark, the Open Network for Digital Commerce (ONDC) for hyperlocal transactions is a ministry of commerce programme that can spread the advantages of digitization to a much wider audience. The present focus is on empowering local sellers, who now have less influence over disputes on proprietary platforms. This will significantly alter how micro, small, and medium-sized firms (MSMEs) conduct business and contribute to GDP growth. Among the existing users of the network are Paytm, Dunzo, eSamudaay, and others. It will enable the hyper-localization of small businesses and micro, small, and medium-sized companies (MSMEs). The platform will enable the display of products from all participating e-commerce businesses in search results across all networked apps. As a result, MSMEs can advertise their goods on the platform at a lesser price without there being any distinction between large and small dealers.

Currently, ONDC has a large number of participants, including vendors like Bizom, Digiit, Enstore, eSamudaay, Growth Falcons, etc., buyers like Craftsvilla, Paytm, IDFC, Kotak, etc., and logistics operators like Delhivery, Dunzo, Grab, LoadShare, and Shiprocket. When a customer looks for a product on one of the buyers' applications, like Paytm, the ONDC platform connects the customer to listed sellers who display retailers from which the customer may make a purchase.

The government's action shows that it is providing an open network protocol that enables any network-enabled application to find and engage in location-aware local commerce across industries. Small business owners and MSMEs aiming to scale their operations through digital commerce will benefit the most from this. This will be a ground-breaking effort to level the playing field for digital trade on the size of a nation like India. Overall, it will support fair trade and provide small, independent business owners more control as they will once again be able to engage with their clients directly and won't be separated from them by an intermediary barrier.

With ONDC, trust portability is advantageous. Consider a decent taxi firm that provides excellent customer service but lacks brand recognition due to its dependence on aggregator apps like Uber or Ola. By enabling a taxi fleet company like this to be seen by many more potential clients, ONDC hopes to change this and raise the trustworthiness of small and independent brands and services.

This network in Bengaluru began its beta testing phase with small shops from 16 different pin codes. The ONDC, which is built on open specifications, would increase the e-commerce scale of small businesses and weaken the power of major firms like Amazon and Walmart-backed Flipkart. The Ministry of Commerce and Industry is behind the project. On the first day of the beta testing, three buyer apps—Paytm, Spice Money, and Mystore—were available on the platform. On the first day, the system was also integrated with as many as 11 vendor apps, which essentially act as aggregators of small shops and kirana stores.

ONDC & Major e-Commerce players

ONDC is in talks with 200 firms, including banks, corporates, and payment firms, to onboard them on the network and as ONDC accelerates e-Commerce adoption, existing players like Amazon, and Flipkart stand to benefit and additionally unicorns such as OYO, Swiggy, Zomato will be onboarded during the coming phase of the ONDC initiative. Clearly, ONDC is not here to challenge Flipkart, Amazon. It is essentially making ecommerce enablers helping the small retailers leverage the digitisation of commerce through our network. In order to create a homogeneous market, ONDC would, at its heart, be a system that enables a network to onboard millions of retailers, sellers, and potential customers via buyer-seller-facing applications. The objective is to increase the population-scale penetration of ecommerce from 4–5%. Nothing is intended to change the current 4-5% marketing shares. Majors in e-commerce have a business risk if they choose not to participate in ONDC but also stand to gain from it.

ONDC in shaping global e-Commerce

Due to the contribution of the government's ambitious ONDC project, which aims to democratize e-commerce for India and provide a level playing field for small and medium businesses, India is well-positioned to emerge as a global pioneer in reinventing the digital commerce landscape. India has advanced to the point where it is now pioneers not just

in this country but also on the entire planet when it comes to digital commerce. And for this reason, there is interest worldwide in how and when India will succeed through its businesses from small to large scale with the aid of ONDC specifically due to its immense focus in the areas of digital commerce in the market.

4. Conclusion

Over the past twenty years, the way individuals do business has swiftly changed from traditional brick-and-mortar establishments to online commerce. E-commerce platforms, which have played a key role in this evolution, have to consider carefully how to address the challenge of building confidence in a situation where the customer and vendor are never in person. The approach that has so far been successful calls for the central platform to take complete command of the value chain and develop into the main repository of trust. But this centralized strategy is not without its flaws. In summary, the ONDC is positioned to become the upcoming innovation in internet infrastructure. It will alter how individuals conduct business and give MSMEs better funding and negotiating choices. Enhanced seller visibility across the network will surely promote GDP growth and benefit sellers as well. Additionally, in order to support the national push, ONDC claimed that it has created an incentive programme for three groups of people: first, seller network participants to encourage seller onboarding; second, sellers themselves to encourage transactions, including but not limited to converting offline customers to online sales; and third, buyer network participants to encourage demand generation on the network.

The king is the consumer. The seller-friendliness of the platform is irrelevant to them. They only consider convenience and enjoyment. ONDC would be well to keep this in mind. Hence, the ONDC is not against major e-Commerce players to pull down its businesses in the market upon competition and posing challenges; however, this network provides an equal opportunity to all the firms in the field of digital commerce.

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Employee Engagement Through Employee Empowerment with Special Reference to Employee Working in Manufacturing Industry Situated at North Karnataka Region

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ABSTRACT

Every organization should involve in identifying the Engagement levels of employees in their work. Engaged employees are uncopied competitive advantage for the organizations. Employees can be engaged by empowering them with well designated roles and by providing sufficient amount of autonomy while delivering their roles and responsibilities. The objective of present study is to analyze the relation between employee engagement and employee empowerment and also to find out, to what extent employee empowerment influence the engagement levels of employee at his/her workplace working in manufacturing industry. Factor analysis and regression analysis has been conducted to observe the total variance explained about the two phenomenon of the study and to analyze the effect of empowerment on engagement levels of employee.

Keywords : Employee engagement, Structural empowerment, Psychological empowerment, Manufacturing industry situated at North Karnataka .

1. Introduction

Manufacturing Industry plays a commendable role in Economic growth of every nation. It has greater contribution towards Socio-Economic transformation and creates direct and indirect employment in its related services. Manufacturing Industry builds competitiveness of the various companies/Industries by building knowledge, technology and Innovations and strengthens the Business environments. It is a key feature for modern Economic growth and prosperity and holds major share in GDP of every nation. From the history it can be observed that Manufacturing Industry is genesis for new technology, Innovations, R&D activities so this Industry is considered as backbone for Developed as well as developing nations. In Manufacturing Industry, Steel Production is vital part of Industrialization and steel is a topmost metal which is used in different types of machinery, construction, Automobiles, Infrastructure, manufacturing intermediary & finished products etc. According to the statistics of Department for Promotion of Industry and Internal Trade (DPIIT), between April 2000-March 2022, Indian

metallurgical industries attracted FDI inflows of US\$ 17.01 billion. The contribution of steel to Indian Economy is around 2%. The growth in steel sector is expected to improve the economic growth rate of India. On the basis of the reports provided by IBEF, steel Industry has huge scope of growth (IBEF,2022) and consequently it is major contributor toward economic growth of nation. So, organizations involving in this process should identify value addition elements that enhance organization's performance and sustainability.

2. Need of the Study

Factors those are necessary in every manufacturing industry are financial Assets, Processes, Place, Utilities and People and One of the major elements which govern the performance of the company is human Resource of the organization. There is a need for every organization to come out with the strategies which makes their human capital get engaged in the work. Engagement speaks about total immersion of the employee in his work physically, psychologically, emotionally and cognitively (Kahn, 1990). Employee involvement in his work leads to

organization's growth and involvement is possible when employee harness himself in his work (May et al, 2004). So there is a need to identify the ways through which employees find their identities in their work with his complete involvement physically, psychologically and cognitively to attain organization's goals and objectives. This is possible only when employees are self motivated, feel responsible and accountable whole heartedly towards their roles and responsibilities. Employees should be made self driven and self directed by providing sufficient amount of autonomy and empower them in process of decision making relating to their work.

The present study wants to fulfill the need of identifying the avenues through which organizations can able to make employees to deeply engaged in the job that precedes the job identities (May et al, 2004).

By considering the current need, the present study has been carried out to answer the Research question - '**To what extent Employee Empowerment influences the Engagement levels of the Employees'**

3. Objectives of the study

To answer the Research question, following objectives are formulated:

- To understand the concepts of Employee Empowerment and Employee Engagement.
- To observe the Empowerment levels among the employees working in the Manufacturing Industry.
- To analyze the relationship between Employee Empowerment and Employee Engagement levels.
- To analyze the influence of Employee Empowerment on Engagement levels of the Employees.

4. Literature Review

Workplace is an important part in every individual's life as he involves in developing various dimensions of life like social relationships, engaging in challenges, building up his identity (Kanungo, 1982). Organizations should continuously strive for creating positive work environments and there is substantial evidence which shows that positive environments are also productive environments (Cameron et al 2003) and in turn fostering work engagement (Bowen & Ostroff 2004, Wright et al 2001, 2005, Dunford & Snell 2001,) and employees are also more productive when compare to others (Csikszentmihalyi 1997,

Seligman 2002, Fredrickson 2003, Diener & Biswas 2008). Positive work environments can be created by providing sufficient resources, and autonomy so that employees can unleash their full potential and knowledge in appropriate decision making (Goldsmith et al, 1997). According to some major research organizations, employees who are committed towards their work and feel enthusiastic, connected emotionally with their work and workplace and perform psychological investment in their work and organization are said to be highly engaged employees (Gallup, Willis Tower Watson, Aon Hewitt, Quantum Workplace).

If employees feel engaged, they care for their organization success and sustainability. There are many positive outcomes if employee is engaged in his/her work. Employees' satisfaction will be enhances in turn leads to their retention in the organization (Purushothaman and Kaviya (2020), Schaufeli, Bakker, & Salanova, 2006). It is an equal important to retain existing talents along acquiring new talent. Enhanced Employee Relations by reducing communication gap, organizations can able to achieve high engagement behaviors among the Employees (Kaushik and Guleria (2020)). Organizations should give opportunities to employees to come out with their opinions and high degree of creativity (Kumar 2021). Organizations should have virtues like, Trust, Empathy, Justice , harmony that leads to create more Humane work environments in which employees feel nourished and valued that leads to employee Engagement (Kumar 2021). Research reveals that workplace environments have major effects on employees' productivity (Yadav et al 2020).

Work environments which promote team coordination will boost the employees' morale and makes them involve in the work more enthusiastically (Kaushik and Guleria (2020)). Organizations has to create a culture where employees should not feel misused, overused, underused and abused (Ketter 2008). Social support from colleagues and supervisors, autonomy, performance feedback, skill variety, learning opportunities are positively associated with Employee Engagement (Schaufeli et al 2009; Xanthopoulou et al 2009). In this context some more Empirical studies have been conducted and studied to find out the influencing factors of engagement levels. Engagement is Behaviourial, cognitive and emotional condition of the employee (.Farndale & Murrer, 2015; Shuck & Wollard, 2010).

So organizations should build work culture in which employee feel empowered to utilize their cognitions to be more creative and productive.

The pioneer for the concept, Khan (1990) explains Employee Engagement as harnessing employees' selves to their work roles. It is positive attachment, commitment, loyalty, (Xiao & Duan, 2014) and positive psychological attachment to work roles (Saks & Gruman, 2014). To get involve emotionally and psychologically at workplace, organization's culture and environment plays an important role. Openness, trust, Authenticity, proactiveness, Autonomy, collaboration are important elements of culture which allows employees to get more engaged in their job roles. employee engagement depends on many antecedents, such as management styles and practices, organizations can build and promote engagement.

Besides, positive work environment can enhance the level of employee engagement. Employees need to have a healthy working environment, which can have an impact on organizational behaviors, such as, organizational commitment and engagement. Rozman et al. (2019) proved that working conditions contribute to improving work engagement.

Work environment is a climate in which employees perform their duties (Hanaysha, 2016) and supportive work environments leads to employee commitment, performance and job satisfaction (Danish et al. (2013), Hanaysha, 2016, Dul et al. (2011). Organizations should provide conducive work environments in which employees feel empowered to take appropriate decisions. From literature it can be observe that Empowered employees are more committed with reduced turnover intensions (N Alkahtani & et al 2021, William C. Murray & et al 2021) and improved performance. Empowering employees is a persuasive practice through which performance and productivity can be enhanced by psychological investment and maximum contribution in appropriate decision making process.

We can observe in literature about mainly two types of Empowerment, and those are Structural Empowerment & Psychological Empowerment (Mathieu, Gilson & Ruddy, 2006). In Structural Empowerment, subordinates are given with power, control, authority and autonomy to carry out different functions and activities related to work. Subordinates

are motivated to grow and learn new skills and allowed to utilize those in their work process (Chen & Chen, 2008).

In order to implement the Empowerment, there should be a proper organized structure where administrators share authorities and responsibilities with the employees according to their profiles ((Demirbilek & Türkan, 2008). If organization fails in identifying the line of authority and control objectively, then it will fail to empower and in turn results in to negative consequences like employee Burnout and Exhaustion. So empowering through external factors require more scrutiny before its implementation.

Psychological Empowerment is an important element of Intrinsic motivation which includes four personal orientations as Competence, Meaning, Self Determination and impact and also demonstrates cognitive orientations about ob roles (Spreitzer, 1995). It is considered as an important resource that enhances employees' Engagement with their work (Ugwu et, al 2014) and also have strong predictive ability of Engagement levels (Bhatnagar , 2012). Psychological Empowerment is a critical antecedent for positive workout comes like job satisfaction(Dewettinck and van Ameijde, 2011; Amundsen and Martinsen, 2015; Nikpour, 2018) and work innovation (Seibert et al., 2011). From the literature it is observed that, Psychological Empowerment develops positive orientations towards the work and job roles and resultant as detrimental to burnout and Exhaustion (McVicar, 2003; Laschinger et al., 2006; Cavus and Demir, 2010; Gong et al., 2021). Physical and Psychological depletion leads to Employee Burnout (Shirom, 1989). If employees are empowered psychologically by providing resources though which they transform their abilities to cope up with their emotional Exhaustion to enhance their potential at work place (Boudrias et al., 2012; Tian et al., 2015; Ayala Calvo and García, 2018; Liu et al., 2019; Permarupan et al., 2020).

Psychological investment stimulates individual's enthusiasm towards work and improves their performance that results to organization's commitment. Research showed that there is a statistically significant relationship between psychological empowerment and Employee Engagement (Marius WS, Sebastian R., 2010). Empowering is considered as a key factor for positive

work outcomes (Irina M, Coralia S, Paul S, 2015) and is positively related to employees' task and innovative performance (Yi L, Feng W, Shenggang R, Yang D, 2015).

From the above discussion, it is clear that Employee Empowerment plays an important role in achieving positive work outcomes and also creates positive intensions towards the job among the employees. A work environment which leads to the development of positive outcomes can have engaged employee in turn can achieve organization success.

5. Conceptual Framework

Literature has provided sufficient evidences on the importance of two constructs of the study. Poor engagement levels effects the organization performance and its success. So organizations should continuously strive in identifying the antecedents that maintains the engagement levels



Present study has conceptualized the theory around two main constructs in which Employee Engagement is conceptualized as Dependent variable and Employee Empowerment as Independent variable. In this section effort has been made to develop a theoretical construct which depicts that sufficient Empowerment leads to desired Engagement levels among the employees.

For this purpose, Structural and psychological Empowerments are considered to analyze the influence of empowerment on three variables of three variables of Engagement - 'Vigor, Dedication, Absorption'.

on the basis of above mentioned conceptualization, a set of hypotheses are formulated to achieve the established objectives of the present study.

H: Employee Empowerment is positively associated with Employee Engagement

- H1: Structural Empowerment is positively associated with Vigor
- H2: Structural Empowerment is positively associated with Dedication

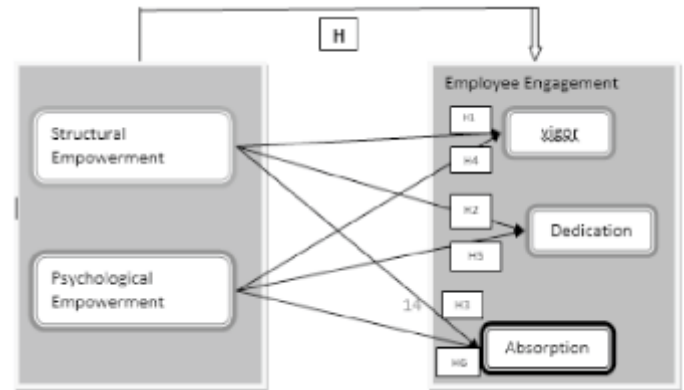
H3: Structural Empowerment is positively associated with Absorption

H4: Psychological Empowerment is positively associated with vigor

H5: Psychological Empowerment is positively associated with Dedication

H6: Psychological Empowerment is positively associated with Absorption

Fig:2 Pictorial representation of relationship among the variables of



Measures & Methods

Measuring dimensions of the construct Employee Engagement and its dimensions

Schaufeli et al (2002) defined engagement as 'a positive fulfilling, work related state of mind that can be characterized by Vigor, Dedication, and Absorption'. So it is very important to pay attention to improve psychological strengths and positive experience at work.

The present study adopted UWES (Utrecht work engagement scale) to measure engagement levels among the employees. This scale has been developed by Schaufeli et al (2002) with three dimensions - 'Vigor, Dedication, and Absorption'. Again developed a refined form of questionnaire to measure work engagement based on the original version of Utrecht Work Engagement scale (UWES), (Schaufeli et al 2006).

Employee Empowerment

Structural empowerment was measured using scale developed by Laschinger et al. (2001) and it consists of sub factors like

- 1) **Opportunities** provided by Management to acquire new skills & knowledge and application of those knowledge and skills; opportunity in decision making;

2) Information & communication provided by the Management in the process of carrying out the functions

3) Support is provided by Management in sufficient amount to handle with critical situations in critical times

4) Resources provided by the Management to fulfill the responsibilities that demands in their respective roles handle with the situations.

Psychological empowerment was measured using the scale developed by Spreitzer, (1995) and it consist of four subscales –

1. Meaning which measures, to what extent employee is finding meaning in his/her work and how much that job is important to him and also to what extent he/she is confident to perform that particular job role.

2. Competence asses the weather employee mastered the skills necessary for the job and self assured on the competencies that are required in the way of carrying out his/her work.

3. Self determination assesses whether he can determine what to do in his/her work and having autonomy of performing the work.

4. Impact asses the Employee's control and significant impact over the activities that happens in the department.

6. Research Design

The present study adopted Descriptive research design which gives a detailed profile of the respondent population being studied by analyzing the characteristics of the group on which research is carried on. The present study involves analyzing the effect of variables that are considered of interest on the selected sample.

Cross sectional nature of research is adopted as it is relevant for that particular time period. (Deepak chawla, Neena sodhi 2014). The cross sectional studies are extremely useful to study current patterns of behaviors or opinions. This is a better technique as the results are more reliable and valued.

Quantitative methods are used to analyze the study. These include descriptive and inferential statistical methods. Both methods are used to analyze the collected data, to derive necessary conclusions and interpretations from the analysis.

Sampling Design

The present study has adopted probability sampling in which simple Random technique is used. Sample size of the study is 150 which consists of employees working in different Iron & steel manufacturing, Ferroalloy manufacturing companies situated at north Karnataka region.

Data collection

Descriptive research studies require two types of data – secondary data and primary data.

Secondary data is collected to gain sufficient knowledge on the topic of investigation, analyze the established relationships among the variables and Primary data is collected exclusively for the purpose of the current investigation that research is conducting (Churchill & Iacobucci 2005).

Instrumentation

Questionnaire is the main data collection tool used to conduct present study. Questionnaire has developed in two sections. First section of the questionnaire collects the data pertaining to the

demographic characteristics of the respondents. It includes age, qualification, work experience, marital status. second section consists of measurement statements pertaining to the variables of the study - Employee Empowerment & Employee Engagement. Total number of Measurement items included in the Questionnaire is 25 in which Employee Engagement contains 17 items and Employee Empowerment consists of 8 items.

Data is collected through 7 Point rating scale in which agreement levels are collected towards statements

7. Statistical Analysis

Data collected from questionnaire is analyzed through Descriptive and inferential statistical tools using SPSS ver.20. There is no incomplete filled questionnaire so total 150 responses are considered for the analysis.

Reliability & Validity of the Instrument

Internal consistency of the variables of the study is measured by using Cronbach alpha (α). The α value for Employee Empowerment is $\alpha= 0.831$ and Employee Engagement $\alpha=0.719$. Total consistency among all items of the study is 0.8 which implies good reliability.

It is important to conduct validity test on the measurement instrument as reliability is not

sufficient. Validity refers to the meaningfulness of the research component. When behaviors are measured, then it should be checked that measurement instrument is measuring what it is intended to measure. This can be attained through validity test. To fulfill the purpose, construct validity have been adopted. Construct validity of the instrument is performed. Construct validity measures to what extent items in the questionnaire are related with constructed theory and it is quantitative in nature. It refers to whether scale measures with a theorized psychological construct.

Factor analysis is used to assess the construct validity of the research instrument. It is commonly used statistical measure in which items are clustered in the form of factors to be measured. High loading of items are grouped to makes one factor and low loading items are discarded as these doesn't contribute for the factors. The method of extraction is principle component analysis with varimax rotation. KMO measure of sampling adequacy is >0.5 which indicates the appropriateness of using factor analysis and Bartlett's sphericity test gives a measure that indicates the level of significance for of the correlation matrix of the variables.

Following table provides KMO & Bartlett's sphericity test results of the two constructs of the study. All these values justify the use of factor analysis.

Table:1

Scale	No. of items	KMO MEASURES	Df	Bartlett's sphericity test	
				Approx chi-square	p-value
EMPLOYEE EMPOWERMENT	8	0.837	28	773.338	0.000**
EMPLOYEE ENGAGEMENT	17	0.746	136	1634.168	0.000**

**P-value <0.01% confidence level

Total variance explained is accounted almost 67.890%, 60% of the variability in the original values of Employee Empowerment and Employee Engagement respectively which indicates how much of the variability in the data has been modeled by the factors. Acceptance level of variance explained by the model can be 60% - 70% (Robin Beaumont 2012). Total variance explained by two scales falls in this range only.

Factor loadings with respect to each item of both

scales are observed above 0.4 ranges from 0.4 to 0.9 . According to Kothari (2005), factor loadings of 0.3 can be considered absolute values to be interpreted. The general rule of the thumb for acceptable factor loading is 0.4 or above (David et al 2010). In the present study, 9th item and 16th item of Employee Engagement and 2nd item of Employee Empowerment are below the adopted threshold value of 0.3 and negative. After removing these items from the scale, the cronbach's alpha of Employee Empowerment & Employee Engagement 0.85, 0.754 respectively. As the consistency values of the scale are not changed or improvised, the items with lower loadings are considered for further analysis. With this analysis, it can be concluded that Measurement scale of the present study has attained validity and can be considered for the further analysis.

Both Descriptive and Inferential statistical tools are used to analyze the collected data

Table: 2 Demographic characteristics of the Respondents

Table:2

Demographic Variables	No. of Respondents	In (%)
Gender		
Male	110	73%
Female	40	27%
Age		
25-35	55	37%
35-45	50	33%
45-55	45	30%
Qualification		
Diploma	50	33%
UG Degree	60	40%
PG Degree	40	27%
Designation		
Technicians	60	40%
Asst Managers (Grade II)	40	27%
Managers (Grade I)	20	13%
Clerical Grade	30	20%
Years Of Experience		
Below 10	40	27%
10 - 20	80	53%
Above 20	30	20%
Total	150	100

Descriptive statistics

Descriptive statistics of the responses is analyzed through % Mean responses. Following table provides

mean responses towards the Measurement statements for Structural Empowerment and Psychological Empowerment.

Table:3

S.No	STATEMENTS	Response (%)								In (%)
		C A	A	SW A	N	D A	S W D A	C D A	Mean Respo nse	
1	I have the chance to gain new skills and knowledge on the job	4.3	3.3	8	4.7				6	85.7
2	I have information about the goals of the organization	7	19.7	22	7.7				5.41	77.2
3	I receive helpful hints or problem solving advice	4	29.3	13.3	3.3				5.68	81
4	I have time available to do necessary paperwork	6	25.7	16	2.3				5.6	80
5	The work I do is meaningful to me.	2.7	27	16.7	3.7				5.57	79.5
6	I have mastered the skills necessary for my job.	4	26.3	18.3	1.3				5.46	78
7	I can decide on my own how to go about doing my own work.	4.3	24	16	4.7	2			5.5	78.5
8	I have a great deal of control over what happens in my department.	4	29.7	12	4.3				5.66	80.8

CA=completely agree; A=Agree; SWA=somewhat agree; N=neutral; SWDA=somewhat disagree; DA=disagree; CDA=completely disagree

Inferential Statistics

Inferential statistical tools are used to analyze the association between the Independent (Employee

Empowerment) and dependent variables (Employee Engagement) of the study. Correlation and Regression analysis are conducted to analyze the Hypotheses formulated.

Following table provides the values of the analysis

Table:4

	Hypotheses	T- static	F- static	β values	Adjusted Rsquare	p-value	Decision
H	Employee Empowerment is positively associated with Employee Engagement	6.224	38.74	0.445	21%	0.000**	Supported
H 1	Structural Empowerment is positively associated with Vigor	5.149	26.5	0.39	15%	0.000**	Supported
+9 87	Structural Empowerment is positively associated with Dedication	3.509	12.31 4	0.279	7%	0.01	Supported
H 3	Structural Empowerment is positively associated with Absorption	4.16	17.34 3	0.324	10%	0.000**	Significant
H 4	Psychological Empowerment is positively associated with vigor	.339	69.53	0.565	32%	0.000**	Supported
H 5	Psychological Empowerment is positively associated with Dedication	2.91	8.479	0.233	5%	0.004	Not significant
H 6	Psychological Empowerment is positively associated with Absorption	3.532	12.47 5	0.279	8%	0.01	Supported

**P-value <0.01% confidence level

8. Results and Discussions

The first objective is attained by conducting extensive literature survey on the concepts of the study. The second objective is attained by analyzing the responses given by the sample of 150 respondents in form of their agreement levels towards the 8 statements of Employee Empowerment Measurement scale. All responses are positive, ranges from 77% to 86%. All the statements have received positive agreements which conclude that maximum respondents have average of 85% of empowerment levels.

The third and fourth objectives are attained by

analyzing level of association exists between the main variables and sub variables of the study. The first hypothesis is constructed between main variables Employee Engagement and Empowerment and analyzed. Results showed that there exist a positive association between main variables of the study with positive correlation value $r=0.455$, which can be interpreted as moderate relationship. Regression analysis reveals the results that Employee Empowerment (independent variable) can influence 21% of variability on Employee Engagement (dependent variable). F-test and T-test are conducted to observe statistical significance of regression effect

and predictive ability of independent variable on dependent variable with positive regression coefficients $\beta=0.44$. On the basis of above results, it can be stated that, main hypothesis H is proved and supported. Remaining hypotheses H1 to H6 are constructed among the sub variables of both the construct. H1 & H4 are formulated between Structural and Psychological empowerment stating that they are positively associated with 'Vigor' variable of Employee Engagement. with correlation of 0.39 & 0.56 respectively and with positive regression coefficient, showing positive influence of Psychological and structural empowerment on 'Vigor' variable. Results proved that Structural and Psychological empowerments can influence the variability of 15% & 32% in the vigor of Employee Engagement. So, H1 & H4 are proved and supported.

H2 & H5 are the hypotheses formulated between Structural and Psychological Empowerment as Independent variable and 'Dedication' of Employee Engagement as dependent variable. From the analysis it is proved that there is a positive association between these variables but weak relation. Regression analysis showed that an influence of 7% and 5% variability can be observed due to Independent variables in the dependent variable of 'dedication'.

H3 & H6 are the hypotheses formulated between Structural and Psychological Empowerment and 'Absorption' of Employee Engagement. From the analysis it is observed a positive and weak association between the variables. Regression analysis shows that structural & Psychological Empowerment influences the 10% and 8% of variability on Absorption levels employees. There is a positive but weak association.

From the table it is clear that all hypotheses of the study are positive and significant except H5 which states weak association between Psychological empowerment and Absorption variable.

9. Conclusion

The complete results of the study show positive relation and influence of Employee Empowerment on Employee Engagement level. If we observe in detail, employees are not psychologically empowered which means they may not be finding meaningfulness in their job and may feel less autonomy in process of execution of their job roles and have poor control over their department activities. These reasons can directly

affect the engagement levels of the employee. Employee can able to immerse himself in his/her work only when he/she is psychologically involved. So organizations should promote the organizational culture which transcends the work environments as 'best places to work' by integrating inner self of employee with sense of fulfillment along with healthy social interactions at workplace.

Organization will be successful if it work culture can create a sense of fulfillment through meaningful work in which organization communicates its values with supportive work environments, so that employees get absorbed and work vigorously with improved dedication levels.

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Understanding the Price Behaviour of selected banks from banking sector in Bombay Stock Exchange

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ABSTRACT

Over the past two decades, the globalisation trend has led to a significant increase in financial markets, particularly the stock market. Stock markets play an important role as an indicator of the economy's overall performance. Analyzing past price movements is how Technical Analysis predicts future price movements. It encourages the mobilization of funds, provides equity capital to the banking sector, and offers adequate returns for investors. The Indian banking sector has undergone significant changes in recent years, with banks diversifying from traditional deposit-taking and lending activities to more complex activities such as investment banking, insurance, and wealth management. Therefore, understanding the price behavior of banks listed on the Bombay Stock Exchange (BSE) is crucial for investors, policymakers, and researchers. By using stock market indicators, investors can observe significant market movements. The main objective of this paper is to analyze a top 5 bank within the banking sector and forecast its stock price behavior. Additionally, the paper aims to test the effectiveness of technical indicators such as RSI and MACD in predicting the stock's behavior. The study focuses on analyzing the stock price trends of selected banks over a period of five years (2017-2022).

Keywords: Stock market, Technical Analysis, Bombay Stock Exchange, MACD, RSI Indicator

1. Introduction

The stock market is a key indicator of economic performance and financial market's health. It provides investors with a platform to invest in various securities, including stocks, bonds, and derivatives. The Bombay Stock Exchange (BSE) is one of the oldest and largest stock exchanges in Asia, located in the city of Mumbai, India. It was established in 1875 as the Native Share and Stock Brokers Association, making it the first stock exchange in Asia. The BSE is also known as the Dalal Street, named after the street on which it is located. It has emerged as one of the leading stock exchanges in India, offering a platform for companies to raise capital and for investors to invest in a diverse range of securities. The BSE has over 5,500 listed companies and is the world's 10th largest stock exchange by market capitalization. The total of \$3.5 trillion is the market capitalization of BSE.

The Indian banking sector has undergone significant changes over the last few years, with the Reserve Bank of India (RBI) implementing several policy changes to promote growth and stability. Banks have diversified from traditional deposit-taking and

lending activities to more complex activities such as investment banking, insurance, and wealth management. As a result, the Indian banking sector has become an essential player in the Indian stock market, with several banks listed on the Bombay Stock Exchange (BSE).

Understanding the price behavior of banking sector stocks listed on the BSE is crucial for investors, policymakers, and researchers. It helps investors make informed decisions while investing in banking sector stocks. Policymakers can analyze the market trends and formulate policies to promote growth and stability in the banking sector. Researchers can analyze the data and identify the factors that influence stock prices and develop models to predict future price movements.

The primary objective of this research paper is to analyze the price behavior of selected banks from the banking sector in BSE and identify the factors that influence their stock prices. The study focuses on analyzing the stock price trends of selected banks over a period of five years (2017-2022). The study employs various technical analysis tools such as the

Moving Average Convergence Divergence (MACD) and the Relative Strength Index (RSI) to understand price behavior.

2. Literature Review

A survey of the literature shows that several studies have been conducted on the performance of the banking sector in India and its impact on the economy. Also, several studies have been carried out to apply technical analysis in practice to various financial markets. Here are some selected quotes: -

According to a study by S. Senthilkumar and R. Gayathri, the Indian banking industry experienced significant growth in the years following liberalization in 1991. This growth was driven by increased competition, technological advancements, and regulatory reforms. The study found that the performance of banking companies listed on the BSE improved significantly in the post-liberalization period, with a marked increase in profitability and asset quality.

Another study by G. Sudarsanan and R. Balakrishnan examined the impact of mergers and acquisitions (M&A) on the performance of banks listed on the BSE. The study found that M&A activities had a positive impact on the financial performance of these banks, leading to increased profitability, efficiency, and asset quality.

According to a study by Gupta and Sharma (2018), the banking sector in India has shown significant growth in the past decade, with the total assets of the banking sector increasing from INR 39.8 trillion in 2007 to INR 151.7 trillion in 2017. The study also found that the profitability of the banking sector has improved over the years, with the return on assets (ROA) increasing from 0.84% in 2007 to 0.92% in 2017.

Balasubramaniam K (1994) conducted a study on stock returns in India by analyzing daily and weekly prices of 90 shares listed in the BSE. He used various techniques such as auto-correlation analysis, runs test, and filter techniques. His findings showed that the behavior of share prices is not random.

RajaGopala Nair and Elsamma Joseph (2000) conducted a study on the risks faced by investors in corporate securities and ways to minimize those risks. They found that by taking calculated risks, investors can reduce the potential losses associated

with investing in corporate securities.

In a study conducted by Kavajecz and Odders-White in 2004, they found that the support and resistance levels of a stock often correspond to the peaks in the limit order book. They also discovered that moving average forecasts can provide insight into the position of the depth on the book. These relationships are the result of technical rules that identify the depth already present on the limit order book.

Keshar J. Baral and Surya Kumar Shrestha conducted a research paper in 2006 about the daily behavior of stock prices for commercial banks in Nepal. They used two approaches to predict stock price behavior: technical analysis and fundamental analysis. The study analyzed the daily price movement of seven commercial banks selected randomly during the fiscal year of 2005/06. The researchers used statistical tools such as mean, standard deviation, and coefficient of variation to analyze the volatility of daily stock prices and indices. They also applied serial correlation and run tests to measure the independence and randomness in daily successive stock prices. The study found that successive price changes were independent, indicating that the Nepalese stock market is inefficient in pricing shares.

In a study conducted by Mohsen Ghobadi in 2014, the profitability of different technical indicators like SMA, RSI, and MFI was evaluated by applying them on various commodities traded on the London Metal Exchange between 2000 and 2013. The study found that when different technical indicators were combined, abnormal profits could be generated from the capital market. Additionally, it was observed that Buy signals were more reliable and consistent compared to Sell signals.

C. Boobalan conducted a study in 2014 on technical analysis in select Indian companies. In the study, he used technical indicators, moving averages, and charts to predict the movement of stocks on the Indian Stock Exchanges. Boobalan found that technical analysis is a useful tool for predicting future price movements of stocks and can be used along with fundamental analysis to make investment decisions.

In a study conducted by Bhamini Garg in 2014, various technical indicators such as RSI, Moving Averages, and ADX were discussed and their relevance explained. The author concludes that technical indicators are popular tools used by investors and traders worldwide as they provide

valuable information, but there are limitations to their use in stock trading. The performance of MACD and RSI indicators was evaluated by applying them to stock trading on five OECD Stock Exchanges and some developing country Stock Exchanges. The study found that these two indicators can generate abnormal returns compared to the traditional Buy & Hold approach, with higher returns seen in developing countries.

Basavaraj Nagesh Kadamudimatha conducted a study in 2017 to evaluate the performance of technical indicators RSI and MFI on various banking stocks traded on Indian Stock Exchanges. He analyzed their performance over a period of time from 2012 to 2016 and concluded that using both indicators together can lead to divergent results. Therefore, it is advisable to use only one indicator at a time for predicting share prices.

3. Objective of The Study

1. To understand the price behavior of selected banking sector companies listed on the BSE.
2. To analyze the performance of selected banks in BSE and to predict the future trends in the share prices through Technical Analysis.
3. To analyze and interpret selected stocks to determine whether to buy or sell.
4. To intimate the investors about making investment decisions in selected stocks.

4. Limitation

1. Technical analysis only for five year is undertaken; from this data we cannot predict prices accurately.
2. This study can be used only for short term decision making not for long term decision.

5. Research Methodology

This study aims at extracting the price movements & analyzing the price movement of selected banking sectors companies' stocks. The study uses a sample of five banking sector companies listed on the BSE. The companies selected for the study are HDFC Bank Limited, ICICI Bank Limited, Axis Bank Limited, Kotak Mahindra Bank Limited, and State Bank of India. The study employs secondary data sources to collect data on the stock prices of these companies and macroeconomic factors such as inflation, interest rates, and GDP growth rate. The secondary data published are to be used for this study and were obtained from the BSE website. For technical analysis, secondary data the monthly share price movements of the selected Banks in BSE were

absorbed for the five years (2017-2022). The closing price of share prices was taken and also the future price movement was analyzed using important tools.

Time Period of the Study

The period of five years from January 2017 to January 2022 have been taken to carry out the present study.

The Major 2 Technical Indicators used in this study are:

1. RSI
2. MACD

Relative Strength Index (RSI)

Relative Strength Index (RSI) is a technical indicator used to measure the strength and momentum of a Stock or Index price movement. It is calculated using the average gains and losses of a specified time period and is expressed as a value between 0 and 100. The 14-day Relative Strength Index (RSI) is a widely used technical indicator that measures the strength and momentum of a Stock or Index price movement over a two-week period. Traders often use the RSI to identify overbought and oversold conditions in the market. A reading above 70 suggests that the Stock or Index may be overbought, while a reading below 30 suggests that it may be oversold.

In addition to these threshold levels, traders can also look for divergences between the RSI and the Stock or Index price movement, which can indicate potential trend reversals. Central line crossovers, where the RSI crosses above or below the 50 level, can also be used to generate trading signals. Overall, the RSI is a valuable tool for technical analysis and can help traders make informed decisions about their investments.

The formula for RSI is: $RSI = 100 - (100 / (1 + RS))$, where $RS = (\text{Average Gain} / \text{Average Loss})$ for the specified time period.

Traders use RSI to recognize overbought and oversold conditions and potential trend reversals.

Moving Average Convergence and Divergence (MACD)

Moving Average Convergence Divergence (MACD) is a popular technical indicator used to identify trend reversals and momentum shifts in the market. It's a calculation in finance that involves subtracting a short-term average of a set of data from a longer-term average to analyze trends. The short-term average is

based on the last 12 periods, while the longer-term average is based on the last 26 periods. The result is plotted on a graph, along with a 9-period EMA, called the signal line.

The formula for MACD is as follows:

$$\text{MACD} = 12\text{-period EMA} - 26\text{-period EMA}$$

$$\text{Signal line} = 9\text{-period EMA of MACD}$$

When the MACD line crosses above the signal line, it is considered a bullish signal, indicating that the Stock or Index price may be about to rise. If the

MACD line crosses below the signal line, it's a bad sign for the stock or index. It means the price might be getting ready to drop. Traders can also look for divergences between the MACD line and the Stock or Index price movement, which can indicate potential trend reversals. In addition, the distance between the MACD line and the signal line can provide insight into the strength of the trend.

Overall, the MACD is a valuable tool for technical analysis and can help traders make informed decisions about their investments.

HDFC Bank Limited Relative Strength Index (RSI)



Figure 1 RSI Divergence

From Figure 1 it could be concluded that the RSI values on 1st January 2018 (86), 2nd July 2018 (82), and 3rd January 2019 (76) showed divergence, indicating a potential market trend reversal. An RSI value above 70 indicates overbought conditions, but it's possible for the stock or index to continue rising before a correction or reversal occurs. The RSI values are decreasing while the price candlestick is

showing an upward trend, indicating a potential divergence. This may suggest that the price increase is not supported by the momentum of the stock or index. With the added impact of Covid news, it corrected in next month

Moving Average Convergence and Divergence (MACD)



Figure 2 MACD Bullish & Bearish Crossover

From Figure 2, it can be inferred that the HDFC bank's stock had a bullish trend in February 2017 as the MACD line crossed the average line from the down to up direction. The share price showed a strong movement, rising from 600 to 800. However, in February 2020, the MACD line crossed from the

upside to downside, indicating a bearish trend, and the share price dropped from 1200 to 700 due to the impact of Covid. Later in November 2020, the MACD line crossed from the down to the upside, indicating a bullish trend, and the share price increased from 900 to 1400.

ICICI Bank Limited Relative Strength Index (RSI)



Figure 3 RSI Divergence & Overbought Area

Figure 3 indicates that an RSI value above 70 is considered overbought, indicating a potential reversal or correction in the market. The RSI values of ICICI Bank's stock were 78 on 2nd December 2019, 74 on 1st October 2021, and 71 on 1st November 2022, suggesting a weakening of the stock's strength.

Despite this, the stock price rose from 500 to 900, which shows a bearish divergence in the ICICI Bank stock. It's important to note that bearish divergences can signal a potential reversal of the market trend, so investors should monitor the stock's movement closely.

Moving Average Convergence and Divergence (MACD)



Figure 4 MACD Bullish & Bearish Crossover

From Figure 4, we can see that on 2nd March 2020, there was a bearish crossover in the MACD, which could have been due to the impact of the COVID pandemic. As a result, the stock price of the ICICI bank decreased from 600 to 300. However, on 1st Dec

2020, a bullish crossover occurred in the MACD, which indicated a potential uptrend in the stock price. The stock price subsequently increased from 350 to 720.

Axis Bank Limited Relative Strength Index (RSI)



Figure 5 RSI Overbought Area

From Figure 5, it can be observed that the RSI value of Axis Bank's stock was above 70 in 2019, indicating an overbought area. Subsequently, the share price of the bank corrected itself and dropped

from 800 to 530. Based on this data, it can be concluded that the RSI gave a reliable sell signal to investors.

Moving Average Convergence and Divergence (MACD)



Figure 6 MACD Bullish & Bearish Crossover

According to Figure 6, on 2nd July 2018, the MACD line of Axis Bank's stock crossed over from the bottom to the upside, indicating a bullish trend. The stock price increased from 500 to 800 following this crossover. On 1st August 2019, although the MACD gave a bearish crossover signal, the stock price continued to rise. However, in December 2019, the

stock price fell due to the impact of Covid-19, which was indicated by the earlier bearish crossover. On 1st December 2020, there was a sharp bullish crossover in the MACD line, which resulted in the share price increasing from 400 to 800. Investors should keep a close eye on the MACD trend and take buying and selling decisions accordingly.

Kotak Mahindra Bank Limited Relative Strength Index (RSI)



Figure 7 RSI Divergence

In Figure 7, we can observe that the RSI value for Kotak Mahindra Bank stock has been consistently decreasing from 80 to 64, indicating a weakening of the stock's strength. However, the stock price has been continuously increasing during this period,

suggesting a strong bearish divergence on the chart. It's essential to note that bearish divergences can signal a potential reversal of the market trend, and investors should closely monitor the stock's movement before making any investment decisions.

Moving Average Convergence and Divergence (MACD)



Figure 8 MACD Bullish & Bearish Crossover

From Figure 8, it can be observed that on 1st March 2017, there was a Bullish Crossover in the MACD of Kotak Mahindra Bank, resulting in an increase in share price from 750 to 1250. However, on 1st October 2018, a Bearish Crossover was observed, which gave a false signal as the share price continued

to rise. On 2nd March 2020, a Bearish Crossover was observed, and the share price dropped from 1700 to 1000 due to the impact of the COVID-19 pandemic. Subsequently, on 2nd November 2020, a Bullish Crossover was observed, and the share price increased from 1250 to 2000.

State Bank of India Relative Strength Index (RSI)



Figure 9 RSI Divergence

According to Figure 9, from July 3rd 2017 to February 1st 2019, the RSI for State Bank of India continuously decreased, indicating a weakening of the stock's strength. During the same period, the stock price

remained stagnant, suggesting a bearish divergence in the stock. Investors should monitor the stock closely and use caution when making any investment decisions related to State Bank of India.

Moving Average Convergence and Divergence (MACD)



Figure 10 MACD Bullish & Bearish Crossover

From Figure 10, it can be observed that on February 1, 2018, there was a bearish crossover in the MACD, but it turned out to be a false signal as the SBI stock price increased. However, on February 1, 2020, MACD showed a bearish crossover, and the stock price decreased from 320 to 160 due to the impact of COVID-19. Subsequently, on December 1, 2020, MACD showed a bullish crossover, and the stock price increased from 180 to 400. These observations suggest that MACD can provide useful signals for investors in making informed decisions.

6. Finding

1. Relative Strength Index (RSI) usually provides accurate signals for identifying bullish and bearish divergences.
2. RSI can also give incorrect signals, so it's essential to use other indicators or price action to confirm the signals.
3. Moving Average Convergence Divergence (MACD) generally provides reliable signals for buying or selling in the market.
4. In some cases, MACD may generate false signals, but combining it with other indicators like price action can help avoid false signals.

7. Suggestions

1. When deciding whether to buy or sell, investors can use price action analysis in combination with other indicators such as RSI or MACD.
2. It's important for investors to use multiple tools or indicators before taking a trade decision.
3. RSI and MACD are lagging indicators, so investors should not solely rely on them for decision-making.
4. Investors can also use support and resistance levels, Fibonacci retracements, and trendlines for additional confirmation before making a trade decision.

8. Conclusion

Technical analysis, which involves the use of various technical tools such as the RSI and MACD indicators, can provide insight into the future share prices of selected companies. With the knowledge gained from

technical analysis, investors can make informed decisions regarding investments in the stock market. By utilizing technical indicators, investors can gain knowledge of the future market of securities, allowing them to make more accurate predictions about stock prices.

Analyzing the RSI and MACD indicators for five major banks including HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank and SBI Bank can provide insight into the future trends of these banks. Technical analysis is especially useful for predicting the short and medium-term price movements of stocks, enabling investors to select the right plan and make profitable investment decisions. For long-term investments, fundamental knowledge is also necessary to gain a clear idea about investment decisions.

Both technical and fundamental analysis play an essential role in making investment decisions in the stock market and predicting the future trends of selected banks in which we have invested. A saying that is often true in the stock market is that the only profitable side is the one that makes the right decisions at the right time. It doesn't matter whether the overall sentiment is optimistic (bullish) or pessimistic (bearish) – what matters is making the right choices at the right moments.

Technical analysis, including the use of RSI and MACD indicators, can help investors identify the right time to buy or sell a stock.

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Evaluation of Business School Graduates' Perspectives on the Impact of Technological Development on their Employability in the Indian Labour Market

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ABSTRACT

The study looks into the impact of technological advancement on the employability of business graduates in the Indian labour market. The study had four particular aims, and four null hypotheses were developed as a guide. The study used a descriptive survey design method. A four-rating structured questionnaire titled "Modern Technology and Employability skills" (MTES) was used to collect data from 512 participants in the 2021/2022 business education postgraduates' admittance examination. Data was coded in SPSS and Pearson Product Moment Correlation Coefficient was calculated to test null hypothesis one. The second null hypothesis was tested using Chi-square, whereas the third and fourth null hypotheses were tested using ANNOVA. At the 0.05 threshold of significance, all four hypotheses were tested. Among other findings, the analysis demonstrates that business education curriculum contents in India do not provide students with generic abilities essential for employability in the Indian labour market in the current sophisticated technology period. Based on their findings, the researcher propose that all of the major abilities in modern technologies required by the Indian labour market be incorporated into the curriculum of business education programmes in Indian institutions.

Keywords: Education in Business, Technical Development, Employability, and the Indian Labour Market

1. Introduction

Graduate employability skills are a set of understandings and personal characteristics that increase graduates' chances of gaining employment and succeeding in their chosen occupations (Yorke, 2008). Employers in today's national and global markets prefer to hire graduates with strong soft skills competencies. To meet the problems of greater competitiveness in fieldwork in the twenty-first century, most employers today require applicants to have basic ICT abilities. (Sarang Bhola, 2013) agreed with this viewpoint, stating that serious companies are less demanding of academic excellence and technical skills, and consider them trainable provided candidates can display positive traits and soft skills. As a result, employers of labour in India have raised their expectations, with a requirement for work-ready graduates that have intellectual capacity as well as ICT abilities.

The shifting labour market characteristics have raised the complexity of skills required by today's workforce and jeopardised the position of graduates

who lack knowledge of new technology. With the importance of ICT skills across all industries and job types in India, individuals who have gained basic ICT abilities and are comfortable with computer usage may be able to access a wider range of employment options and boost their marketability in the workplace. As a result of the increased labour market demand, there has been a persistent global appeal for postsecondary institutions to provide students with ICT skills by incorporating the skills into their curriculum. This will allow students to gain and develop the necessary employability skills throughout their studies (Brown, 2003).

Notwithstanding the importance of technical skills on the employability of fresh graduates in the Indian labour market, it is regrettable that responses from labour employers on recent graduates' competences in the use of modern technology suggest that these abilities are insufficient. (Williams, 2003) reported that graduates are lacking in transferable skills necessary in the workforce in the age of current technology, which supports this claim. (Tyman, 2011) noted that companies believe graduates are not yet

prepared to enter and handle the complexities and challenges of the modern workplace. Universities have been under great pressure to revise their curricula in order to provide students with more than simply academic abilities (Rahim, 2000). According to (Singh, 2008), companies have pushed colleges to make more explicit efforts to build the 'key', 'core', 'transferable', 'soft', 'employable', and/or 'generic skills' required in various sorts of work. The researchers were driven by this scenario to explore the perspectives of business education graduates on the impact of technology innovation on their employability in the Indian labour market.

The study determines

- (i) The relationship between business education curriculum contents in India and generic skills required for their employability in the technological era and advancement;
- (ii) The impact of modern technology on the employability of business education graduates in India;
- (iii) Differences in respondents' perceptions based on institutions on the effect of modern technology on their employability in India; and
- (iv) Differences in respondents' perceptions of reemployment in India.

Accordingly, the 0.05 threshold of significance was used to test the following null hypotheses.

1. There is no correlation between the subjects covered in Indian business education curricula and the general abilities needed for job readiness in the high-tech era.
2. The employability of business education graduates in the Indian labour market is not significantly impacted by modern technologies.
3. There are no appreciable differences in respondents' opinions of how modern technology will affect their capacity to get employment in India.
4. There are no appreciable differences in respondents' perceptions of the impact of contemporary technology on their employability in the Indian labour market based on their areas of specialisation (accounting, distributive, and secretarial education).

2. Review of Empirical Literature

The theoretical foundation of (Bhola and Dhanawade 2013), who note that employers are seeking proof of positive traits and capacity to use soft skills, served as the foundation for the study. According to the argument, graduates need to employ modern technologies in order to establish themselves on the job market. ICT skills, according to the proponents of this thesis, are a crucial driver of future employment as well as a dominant engine for increasing productivity and economic potential. (Anon n.d.), (Oduma, 2010), (Benjamin, 2011), (Ediagbonya, 2012), among others, argue that fundamental ICT skills are essential for landing a job, keeping it, and succeeding in it. The same way, (Overtom, 2000) contends that in order to succeed in the workplace of the twenty-first century, one must possess critical transferrable knowledge, abilities, and attitudes. The International Employer Barometer (IEB), which asserts that employers value 'soft' and 'hard' talents most highly among graduates and assesses satisfaction ratings on the extent to which graduates display these capabilities, provided support for the notion. It also examines the hiring practises that firms believe to be the most practical and efficient.

Other authors did studies of this kind that are similar to ours. A survey of business education graduates and employers' expectations for gainful employment was done by (Oduma, 2010). The study examines what employers anticipate from business education graduates in terms of general work competencies needed for gainful employment in firms. For this investigation, a descriptive survey design was used. Chief Executive Officers (employers of labour) in charge of hiring processes made up the respondents, who were chosen at random from private businesses. In order to create a representative sample for the study, 280 Chief Executives were used. The researcher created a structured questionnaire as the tool for gathering data. For addressing the research issues, the weighted mean and standard deviation were used.

The study found, among other things, that employers of labour expected graduates of business education to have leadership qualities as a prerequisite for successful employment in organisations. A cluster of general work competences or organisational behaviours needed by employers of labour were among the recommendations made for the restructuring of the business education programmes in tertiary institutions.

In (Imeokparia, 2012) carried out research on the employability of recent business education graduates. The study posed four research topics and developed and evaluated three null hypotheses. The study involved 60 postgraduate students from the Universities. Data from the respondents were collected using a four-rating scale, structured questionnaire called the "Employability of Business Education Graduates Questionnaire (EBEGQ)". The data were examined using SPSS version 16.0, which stands for Statistical Software for Social Sciences.

The student t-test for independent samples and the Analysis of Variance were the inferential statistics employed (ANNOVA). The investigation showed, among other things, that graduates of business education had lower levels of thinking ability than graduates of personal quality. One of the suggestions made was for institutions to work with local businesses to create a sort of partnership that would facilitate the transfer of these talents. That instance, since many of these facilities are inadequate in schools, creating school-industry partnerships would increase their availability.

A study named "Instructional Factors and Students' Development of Employable Skills in Vocational education in Technical Colleges" was conducted by (Udofia, 2012). Three research questions and three hypotheses were developed to serve as a roadmap for the researchers. Senior students from the nine institutions, made up the study's population. 240 people called the area home. The sample size of 120 was determined using a random sampling method. The study used a survey with correlational data. Data were gathered using a 28-item structured questionnaire called the Students' Acquisition of Employable Skills Questionnaire (SAESQ), which had four-point rating response options. For data analysis, mean, Pearson Product Moment Correlation (PPMC), and regression analysis were utilised. The findings show a strong correlation between students' learning of employable abilities and the quality of their teachers. The researchers advise that students should have access to contemporary technical tools, machines, and instructional materials for hands-on training in Technical Colleges across the nation.

3. Methodology

For this study, a descriptive survey design approach was used. The study's sample includes 512 recent

graduates who took the postgraduate admission test in India for the academic year 2021–2022. The respondents' responses to a questionnaire with four rating scales were utilised to produce data. The Centre for Excellence in Embedding, Improving and Integrating Employability provided the questionnaire, which was then modified and adopted. The assignment was to create a list of the employable abilities and qualities needed by the job market in the twenty-first century.

In order to assess the validity of the instrument, nine colleges in India with expertise in business education and research methodology reviewed the items. Before the tests were given out, their comments and recommendations were integrated into the final version of the exam. The researcher gave 540 copies of the questionnaire to graduate students in order to evaluate the instrument's dependability but only 512 were adequate to proceed for further research. Statistical analysis was performed on the obtained scripts using the Statistical Package for the Social Sciences (SPSS). The reliability co-efficient for the test result was 0.76.

In the survey, participants were asked whether they believed their training had offered them the chance to acquire any of a list of 20 employability skills and qualities while they were still in undergraduate studies. A statistical analysis was performed on 512 copies of the questionnaire. The first of the four null hypotheses were tested using the Pearson Product Moment Correlation Coefficient, the second was tested using Chi-square, and the third and fourth were tested using ANNOVA. At a significance threshold of 0.05, each null hypothesis was tested.

4. Results and Discussion

Test of Null Hypotheses

Null Hypothesis One

There is no significant relationship between business education curriculum In India and topics and generic skills essential for employability in the modern era and advancement.

the Pearson Product Moment Correlation's findings the coefficient used to test the first null hypothesis is shown in Table 1.

Table 1: A comparison of the general employability abilities taught in business education curricula in the modern period.

Variable	Mean	Std. Dev.	Df	r-cal	r-crit	Sig. (2-tailed)
Curriculum for Business Education	2.98	0.53	82	0.07	.196	0.042
Employability Skills in General	3.42	1.56				

The hypothesis one result in Table 2 reveals an r-cal. value of 0.07 less than the 0.196 r-crit. value. This is also evident in the probability value of $0.042 < 0.05$. As a result, there is no significant association between business education curriculum contents in India and generic abilities required for employability in the Indian labour market's modern technology period. As a result, the null hypothesis was retained.

Null Hypothesis Two

Modern technology has no significant effect on employability skills of business education graduates in India.

Table 2 shows the data analysis done to test null hypothesis number two.

Table 2: The effect of modern technologies on the employability skills of business education graduates in India was evaluated.

Tick Options	Observed N	Expected N	Residual	Chi-Cal	Chi-Crit	Df	Asymp. Sig.
Agree	13	27.7	-14.7	14.92*	5.98	2	0.000
Disagree	23	27.7	-4.7				
Strongly disagree	48	27.7	20.3				
Total	84	83.1					

At the 0.05 level of significance, the computed value of Chi-Square utilized to test null hypothesis one is 14.92, which is more than the 5.98 Chi-Critical. As a result of the investigation, modern technology has a major impact on the employability skills of business education graduates in India. As a result, the null hypothesis was rejected.

Null Hypothesis Three

Table 3: A test of the difference in respondents' perceptions of the effect of modern technologies on their employability abilities in Indian based on institutions.

	Sum of Squares	Df	Mean Square	F-cal	F-crit	Sig
Between Groups	79.57	12	7.24	1.58	2.62	.052
Within Groups	1984.22	73	27.58			
Total	2063.79	85	34.82			

There is no significant difference in the perception of respondents' base on their institutions on the effect of modern technology on their employability skills in India.

The results of the analysis of variance (ANNOVA) performed to test null hypothesis three are shown in Table 3.

The sum of squares between groups was 83.86, with a mean square of 7.64, according to data analysis conducted to test null hypothesis four. Similarly, with a mean square of 27.82, the sum of squares within groups was 2002.12. There were 12 and 73 degrees of freedom, respectively. $1.45 < 2.62$ F-crit was the F-cal number. As a result, there is no substantial variation in respondents' perceptions regardless of their field of specialisation. As a result, accounting, distribution, and secretarial education students all believe that using current technology affects their employability in the Indian labour market. As a result, the null hypothesis was retained.

5. Discussion of the Findings

The findings of the study show that there is no link between the contents of business education curricula and the generic abilities required for the employability of business education graduates in the advanced technology era of the Indian labor market. This finding supported the findings of (Ranasinghe, 1992) and (Lindsay, 2002), who found a disparity between the level of employability skills obtained by graduates and the entry level labor needs in fieldwork. According to (Hagan, 2004), there is a conflict between industry's desire for graduates trained in the specific tools and methodologies that they are currently using and universities' desire to teach students in a broader and more theoretical manner in order to equip them to deal with what is likely to be demanded of them in the labor market.

The study also found that the use of modern technology in fieldwork has an impact on the employability of business education graduates in India. The findings are consistent with those of (Ahmed, 2006), who observed that the creation of a skills gap in the employer/graduate interaction is putting additional pressure on employers and business education graduates in the Indian labor market. (Andries, 2008) confirms that work complexity is expanding across all industries. Innovations in information technology (IT) and information and communication technologies (ICT) are driving this trend (ICT). According to (Senior, OpticalFiber, 2009), globalization and economic recession are putting additional pressure on business education graduates due to the increasing number of job losses around the world.

The research's findings also demonstrate that respondents had the same opinion regardless of their

field of study or the university from which they graduated. They were all of the opinion that modern technology had an impact on their employability in the Indian labour market. This finding is consistent with the findings (IFME, 2006) and other labour employers, who identified a broad mismatch between teaching in higher education institutions and labour market needs. According to (O'Toole, 2005), business education curriculum in general is on the wrong road. They emphasised that the curriculum is under fire for failing to transmit valuable skills, prepare leaders, and instil ethical principles that will lead graduates to good corporate employment in the technological era. (Garrido, 2009) agreed that the widespread adoption of information and communication technologies (ICTs) across all economic sectors is putting new demands on employees' skills. They emphasised that changing skill sets both increase employment prospects and place new demands on disadvantaged populations.

6. Conclusions

The following are the study's primary conclusions, based on a survey of related literature, analysis and interpretation of the results gathered, and personal experiences of the researcher:

(i) Students are dissatisfied with the required work skills in the business education curriculum content in Indian institutions, and there is a mismatch between the training provided to business education students and the needs of the Indian labour market. As a result, business education graduates are finding it difficult to match the demands of labour employers.

(ii) Because of the use of current technology in fieldwork, business education graduates are finding it challenging to compete with their peers in the Indian labour market. As a result, the shift in the labour market profile has increased the strain on business graduates looking for work in India.

(iii) That the current business education curriculum at all institutions, regardless of area of expertise, is insufficient and has very little potential to build students' skills to tackle the demands of advanced technology in India.

7. Recommendations

Based on the preceding findings, the following recommendations are made:

(i) Modern technology, which is required in these days and age, should be integrated into the curriculum of business education programmers in Indian colleges. Also, lecturers currently engaged by institutions providing business education courses must obtain additional training in leveraging technology to teach the new body of knowledge. This will provide graduates with the much-needed 21st-century employability skills that will improve their career prospects in the labor market.

(ii) The National Universities Commission and other educational agencies should create a benchmark curriculum for business education that focuses on relevant skills and competences. This will assist universities in taking critical measures to assess the characteristics required of business education graduates as well as to encourage generic skill development required of all students while in school.

(iii) Government, private and public sector institutions, non-governmental organizations (NGOS), and philanthropists should work together to provide modern infrastructural facilities and instructional materials to business education programs in Indian tertiary educational institutions, in order to facilitate the transmission of generic skills to students.

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Impact of LGBT-supportive Workplace Policies on Productivity

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ABSTRACT

Today's workforce is increasingly diverse in terms of personal characteristics such as race, ethnicity, gender, national origin, religion, gender identity, and sexual orientation. The “business case for diversity” suggests that such diversity in the workplace will lead to lower costs and/or higher revenues, improving the bottom line. Not surprisingly, employers have considered the economic benefits of adding lesbian, gay, bisexual, and transgender (LGBT)-supportive policies, including sexual orientation and gender-identity non-discrimination policies and domestic partner benefits policies. The present study identifies and evaluates the impact of LGBT-supportive employment policies and workplace climates on business outcomes in order to answer two primary questions:

1. Whether Company is seriously adopting the non-discriminatory policies for LGBT and/or taking appropriate action towards supporting it 2. Does LGBT-supportive policies will create an environment that is conducive for enhancing productivity ?

Simple Random Sampling is used to collect data from people from LGBT community working in several sectors of Corporates within Mumbai region. Out of 100 samples , 75 responses have been collected . Care has been taken to collect data from the entire research universe. We conclude that this research supports the existence of many positive links between LGBT-supportive policies or workplace climates and outcomes that will benefit employers. However, studies does not provide provides direct quantitative estimates of the impact on the bottom line. More specifically, research demonstrates that LGBT-supportive policies and workplace climates are linked to greater job commitment, improved workplace relationships, increased job satisfaction among LGBT employees. Furthermore, LGBT-supportive policies and workplace climates are also linked to less discrimination against LGBT employees and more openness about being LGBT. Less discrimination and more openness, in turn, are also linked to greater job commitment, improved workplace relationships, increased job satisfaction, and increased productivity among LGBT employees.

Key words: LGBT , Non-discriminatory policies, supportive work place policies, openness/ open climate, discrimination , job commitment, workplace relationships , job satisfaction, productivity.

1. INTRODUCTION

1.1 LGBT

The LGBT community or GLBT community, commonly referred to as the gay community, is a loosely defined grouping of lesbian, gay, bisexual, and transgender (LGBT). Homosexuality is a feeling or desire involving sexual attraction to people of one's own sex. In common usage, the term homosexual is used to refer to both same-sex oriented males and females. The word 'Gay' is often used as a synonym for male homosexual behaviour while the term 'Lesbian' is referred to a woman who is sexually attracted to another woman. In terms of sexual

orientation of individuals, a bisexual person is sexually attracted to both men and women. Transgender is another category who is neither a complete man nor a complete woman and are 2 called 'Hijras' in Hindi and jovially referred to as 'neither here nor there'.

1.2 NON DISCRIMINATORY POLICY

An employment non-discrimination policy that explicitly bans discrimination on the basis of sexual orientation and gender identity ensures equal treatment for LGBTQ+ employees and also sends a welcoming message to LGBTQ+ job applicants,

helping the organization retain and recruit a diverse, talented staff. Including the terms “sexual orientation” and “gender identity or expression” in an employment non-discrimination policy underscores an employer's dedication to workplace equity. It is becoming commonplace for employers' non-discrimination statements to include the terms “sexual orientation” and “gender identity or expression

1.3 SUPPORTIVE WORK PLACE POLICIES

Diversity and inclusion (D&I) is more than policies, programs, or headcounts. Equitable employers outpace their competitors by respecting the unique needs, perspectives and potential of all their team members. As a result, diverse and inclusive workplaces earn deeper trust and more commitment from their employees. Diversity and inclusion are two interconnected concepts—but they are far from interchangeable. Diversity is about representation or the make-up of an entity. Inclusion is about how well the contributions, presence and perspectives of different groups of people are valued and integrated into an environment. An environment where many different genders, races, nationalities, and sexual orientations and identities are present but only the perspectives of certain groups are valued or carry any authority or influence, may be diverse, but it is not inclusive. A supportive work place policies means diverse and inclusive workplace is one that makes everyone, regardless of who they are or what they do for the business, feel equally involved in and supported in all areas of the workplace. The “all areas” part is important.

2. OBJECTIVE

1. To find out existence of non discriminatory workplace policies and open climate in corporates
2. To find out the relationship between LGBTQ non – discriminatory policies and factors that contribute towards Productivity

3. HYPOTHESIS

There is no significant relationship between LGBT Non- DISCRIMINATORY POLICIES AND PRODUCTIVITY

. There is significant relationship between LGBT Non- DISCRIMINATORY POLICIES AND PRODUCTIVITY

4. LITERATURE REVIEW AND

POTENTIAL LINKS BETWEEN NON DISCRIMINATORY POLICIES AND BUSINESS OUTCOMES

The various studies implies a causal relationship between diversity-respecting policies and employers' competitiveness in their product markets. To put it simply, for improved competitiveness and rising profits, either the costs of doing business fall or revenues rise. Unfortunately, no existing study uses any direct measures of costs or revenues as an outcome measure. Therefore, we first look for links between workplace policies and individual LGBT worker outcomes and organizational outcomes. We identify two primary possible individual outcomes, and eleven other secondary possible individual and organizational outcomes that have been suggested in the academic literature and in corporate discussions. Below we identify those outcomes with a lower-case letter. Since those outcomes are not measured in rupee terms of costs and revenue, the basic determinants of profit, we next look for evidence that the outcomes would have implications for costs and revenue. Diversity-respecting policies: Prior studies have evaluated different diversity policies, including LGBT-supportive policies, and measures of workplace climate. In this report, we focus on the effect of sexual orientation and gender identity non-discrimination policies or any more general measure of the workplace climate for LGBT people.

Individual outcomes

LGBT-supportive policies and workplace climates might have several important effects on LGBT employees that will increase their productivity levels or retention rates (effects that would reduce employer costs and increase profits). At the most immediate level, these policies could result in

- (a) less discrimination and
- (b) increased openness (or less concealment) in the workplace about being LGBT.

Concealment of sexual orientation is associated with increased psychological distress (Pachankis, 2007) and poor immune functioning (Cole, Kemeny, et al., 1996; Cole, Taylor, et al., 1996), suggesting its importance as an outcome variable of interest. Those immediate primary effects, in turn, could have secondary effects on workplace-related outcomes through: c) Improved health outcomes d) Increased job satisfaction e) Improved relationships with co-workers and supervisors f) Greater commitment and other positive workplace behaviors and attitudes.

Those secondary effects are more closely related to potential reductions in employer costs. Job satisfaction, better health outcomes, and improved relationships could increase productivity. All four secondary effects could reduce turnover.

Organizational outcomes

Diversity-enhancing policies also have organizational effects that could improve profits, both through lower costs and higher revenue, including: g) Lower health insurance costs (through c) h) Lower legal costs from litigation related to discrimination (through a) i) Greater access to new customers, such as public sector entities that require contractors to have non-discrimination policies or domestic partner benefits j) More business from individual consumers who want to do business with socially responsible companies k) More effective recruiting of LGBT and non-LGBT employees who want to work for an employer that values diversity l) Increased creativity among employees that could lead to better ideas and innovations m) Greater demand for company stock because of expected benefits of diversity policies

Confounding factors

It is important to note that other aspects of an employer's environment might also influence how the policies result in changes in individual or organizational outcome measures. For example, firm size might matter, since larger firms might have more effective HR departments. Industry could matter, since if competitors also have LGBT supportive policies, prospective employees might have other good options for employment, reducing the benefits of the diversity policies by lowering their value as a unique workplace incentive. There are many other potential factors, including the employer's location, the existence of state or local non-discrimination laws, and employee awareness of policies, that should be taken into account in studies that ask whether policies lead to better business outcomes.

5. RESEARCH METHODOLOGY

1. Current study is of descriptive, analytical in nature
 2. Primary data collection: Primary data collected through structured questionnaire and observation method. Seven-point scale (1- Extremely Strongly Disagree, 2- Strongly Disagree, 3- Disagree, 4- Neutral, 5- Agree, 6- Strongly Agree, 7- Extremely Strongly Agree) is used to measure questionnaire

responses.

3. Sampling Method and sample size: Simple Random Sampling is used to collect data from employees of corporates who belong to LGBT community located in the Mumbai region. In total 100 respondents were selected, out of which 75 responses were fully recorded. Care has been taken to collect data from the entire research universe. All the LGBT employees are located in different areas of Mumbai District.

4. Analysis and Hypothesis testing: Analysis has been carried out using responses without using any statistical method of correlation and regression. The questionnaires were framed in such a way that it helps in concluding the consecutive direct impact of non-discriminatory policies on various primary outcome and successively the impact of primary outcome on secondary outcome and hence the productivity.

6. RESULTS

(a) Less discrimination (3:1:1)

Research studies shows relationship between LGBT-supportive policies or workplace climates and discrimination

Policy/climate → less discrimination



■ Positive Relationship

■ Negative

■ No relationship

Research suggests that LGBT employees experience less discrimination when their employer has a non-discrimination policy that includes sexual orientation and gender identity.

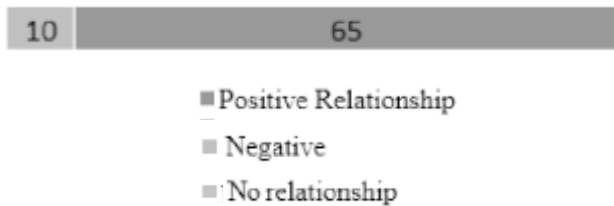
(a) Increased openness (or less hiding) in the workplace about being LGBT

Research shows relationship between LGBT-supportive policies or workplace climates and openness about being LGBT

(b) Increased openness (or less hiding) in the workplace about being LGBT

Research shows relationship between LGBT-supportive policies or workplace climates and openness about being LGBT

Policy/climate → more openness



LGBT-supportive policies Increased openness about being LGBT

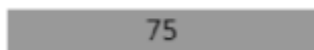
Research indicates that LGBT-supportive policies can create a workplace climate where employees feel comfortable enough to disclose their sexual orientation and gender identity. Four studies have found that LGB people are more likely to disclose their sexual orientation

SECONDARY EFFECTS FOR INDIVIDUALS IN THE WORKPLACE

(C) Improved health and well-being outcomes

Figure : shows relationship between LGBT-supportive policies or workplace climates and health outcomes

Less discrimination → improved health outcomes



More openness → improved health outcomes



LGBT-supportive policies Improved health and well-being outcomes

Study have found that employees covered by LGBT-supportive policies are psychologically healthier than those who are not covered by these policies. Studies show that these policies can have broader effects on employees' well-being outside of the workplace, as well as work-specific effects.

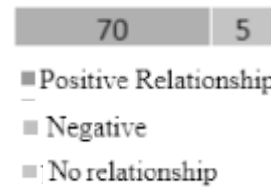
(d) Increased job satisfaction

Figure showing relationship between LGBT-supportive policies or workplace climates and job satisfaction

Less discrimination → increased job satisfaction



More openness → increased job satisfaction



LGBT-supportive policies Increased job satisfaction

Study have found that LGB employees who are covered by a non-discrimination policy are more satisfied with their jobs than employees who are not covered by a policy.

(e)Improved relationships with co-workers and supervisors

Figure showing relationship between LGBT-supportive policies or workplace climates and relationships with co-workers and supervisors

Less discrimination → improved relationships
 More openness → improved relationship
 improved relationships → increased productivity



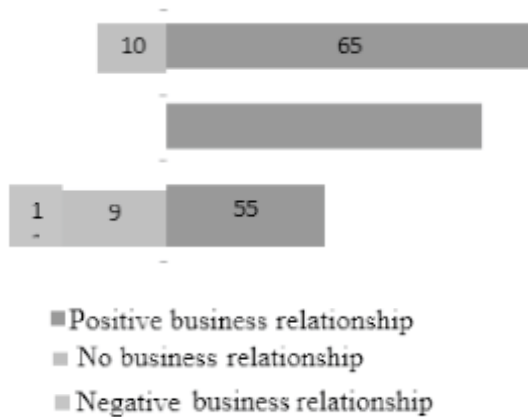
LGBT-supportive policies Improved relationships with co-workers and supervisors

Research has shown that LGB employees who are covered by LGBT-supportive policies are more likely to be socially and altruistically engaged in the workplace.

(f) Greater commitment and other positive workplace behaviors and attitudes

Figure showing relationship between LGBT-supportive policies or workplace climates and job commitment and other positive workplace behaviors and attitudes

Policy/climate → greater job commitment
 Less discrimination → greater job commitment
 More openness → greater job commitment



LGBT-supportive policies Greater commitment and other positive workplace behaviors and attitudes

Studies have found that LGBT employees are more loyal to employers that have LGBT-supportive policies.

EFFECTS ON ORGANIZATIONAL OUTCOMES

In previous sections, I demonstrated evidence that LGBT-supportive policies and workplace climates are associated with positive changes for LGBT employees, including increased job satisfaction, better psychological health, and greater engagement with coworkers. I next consider the impact of these policies on higher-level organizational change. It is important to note that little research exists directly relating LGBT-supportive policies to macro-level organizational change. However, in an effort to provide a more comprehensive review of the potential costs and benefits of adopting such policies, I outline several proposed theoretical relationships.

(a) Changes in health insurance costs (through (c)

above, and direct changes)

Extending benefits to the LGBT employees in view of non-discriminatory policies will bring about lower health outcome which directly results into no insurance related cost to organisation. However if a company extends health insurance cover to LGBT employees or same sex partner, the cost might get increased with its effect on productivity is more as mentioned in (f) i.e; greater commitment.

(b) Lower legal costs from litigation related to discrimination (through (a), above)

The implementation of LGBT-supportive policies may serve to bring a company in-line with existing central or state regulations or local ordinances. In doing so, a company may shield itself from legal costs associated with compliance lawsuits, an issue of concern to many employers. However, estimating the costs of addressing compliance issues is challenging and accurate data is missing. But the evidence of less discrimination with LGBT policies will surely leads to low dissatisfaction among employees and hence lower litigation cost.

(c) More business from individual consumers who want to do business with socially responsible companies

A possible outcome of adopting LGBT-supportive workplace policies is a change in the way a company is viewed by those external to the organization, most notably customers and potential new employees. For example, an experimental study by Tuten (2005) evaluated consumers' reactions to a company that was described as having “gay-friendly” policies, and to a company that was described as lacking “gay-friendly” policies

(d) More effective recruiting of LGBT and non-LGBT employees who want to work for an employer that values diversity

LGBT-supportive policies More effective recruiting of LGBT and non-LGBT employees

Having LGBT-supportive policies may have a similarly positive impact on the recruitment of non-LGBT employees. In the 2006 Harris poll, 72% of non-LGBT respondents said that, when deciding where to work, it was important that an employer have

an LGBT-inclusive nondiscrimination policy, and 79% said that it was important that an employer offer equal benefits (Out & Equal, Harris Interactive, & Witeck Combs Communications, 2006).

EVALUATION OF LIMITATIONS

Effect sizes found among the current set of studies were generally small and the presence of LGBT-supportive policies accounted for only a limited amount of the variance in outcome measures. This indicates that there are likely other factors impacting employee attitudes, employee behaviors, and a company's bottom line, and that LGBT-supportive policies such as nondiscrimination and benefits policies are only part of what influences the work experiences of LGBT employees

Another limitation among the studies reviewed for this report is the use of self-report questionnaires as the most frequently used method of assessment. While the use of self-report questionnaires is common to much of social science research and may adequately measure constructs such as work-related attitudes, research on LGBT-supportive workplace policies using this type of methodology relies on participants' accurate knowledge of the presence of these policies. Importantly, participants in studies assessing the presence of nondiscrimination policies and/or domestic partnership benefits either did not know or were not sure of whether such policies existed at their organization, a finding which calls into question the reliability of some of the data collected. In addition, this result suggests that for some proportion of LGBT employees, there is no relationship between the presence of LGBT-supportive workplace policies and employee-level outcomes simply because these individuals are unaware that such policies even exist

SUMMARY AND CONCLUSIONS

On a qualitative level, we find support in the social science research for links between LGBT-supportive policies and outcomes that will benefit employers. Although the number of available studies was small, we are able to draw some tentative conclusions:

- Having LGBT-supportive policies in the workplace is associated with reduced incidence of discrimination, and less discrimination is associated with better psychological health and increased job satisfaction among LGBT employees.
- A supportive workplace climate – which includes

both LGBT-supportive policies and more broad support from co-workers and supervisory staff – is associated with a greater likelihood that LGBT employees will feel comfortable disclosing their sexual orientation at work. In turn, increased disclosure of sexual orientation is related to improved psychological health outcomes among LGBT employees.

- LGBT employees report more satisfaction with their jobs when covered by LGBT-supportive policies and working in positive climates.
- The presence of LGBT-supportive policies and workplace climates are associated with improved relationships among LGBT employees and their co-workers and supervisors. In addition, LGBT employees are more engaged in the workplace, are more likely to go above-and-beyond their job description to contribute to the work environment, and report greater commitment to their jobs.
- Although there may be initial costs to enacting LGBT-supportive policies, such as extending health benefits to same-sex partners of LGBT employees, we find that these costs are likely negligible and could be offset by cost savings in other areas. Healthier, more committed LGBT employees are likely to make greater contributions to the workplace.
- Among consumers and job-seekers who value LGBT-inclusive diversity practices, businesses with LGBT-supportive policies may be seen as better companies from which to buy products or for whom to work, thereby increasing their customer base and pool of prospective employees.
- This would successfully conclude productivity for a business.

8. RECOMMENDATIONS

I make several recommendations about directions for future research:

- Recruit more racially and ethnically diverse samples of LGBT people.
- Recruit larger samples of bisexual men and women and transgender employees.
- Use more direct measures of business outcomes,

such as productivity and profit measures.

- Employ a wider range of sampling methods and research designs.

Finally, researchers and business officials should collaborate to fully utilize data collected by employers and to make findings available to policymakers, the public, and other businesses.

Strong Associations with: Greater Disclosure in the Workplace
Fairly Strong Associations with: Less Discrimination at Work Better Health Higher Job Satisfaction Higher Job Commitment
Possible Associations with: Organizational Citizenship Behaviors Improved Co-worker Relationships Lower Insurance Costs Increased Creativity & Innovation Improved Stock Prices

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Study on use of OTT Platforms Among Youth

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ABSTRACT

In modern world, people have more options for entertainment sources. In olden days, people used to watch Doordarshan and would rely on radio for major new broadcasting. Slowly it transforms to the availability of cable connection and movie theatres. People started watching TV series on TV and movies in theatres. Then the technology brought the concept of the YouTube which grow as major channel for youth viewers. TV, itself brought major evolution as LED, touch screen, inbuilt internet availability etc. With these variations the recent trends in market is OTT (Over the Top) video streaming. The availability of content, easy access to variety of shows, user friendly nature and continuity in shows compels the users to subscription of OTT video streaming. Video streaming becomes easily accessible via laptop and smartphones. India have experienced large OTT subscription especially during COVID 19 pandemic. This growth in OTT subscription is being driven primarily by consumer's ever-increasing hunger for streaming video over the internet, now amplified by the migration of more broadcast and cable TV onto direct-to consumer over-the-top (OTT) internet delivery networks. This study aims to pinpoint use of OTT platforms among youth. The study is confined to Mumbai and MMR region.

Keywords: OTT, MMR (Mumbai Metropolitan Region), Youth, Impact

1. INTRODUCTION

What is OTT and its presence in India

Our society has been experimenting with various forms of entertainment since ancient times. Classical as well as folk music, dance and drama had been a part of our lives since ancient times. The 20th century saw the dawn of innovations, growth of technology and with advancements in various sectors, made technology the symbol of development for a country. Household living became comfortable with electrification, new appliances like fridge, washing machine and other such appliances. Gradually the broadcast/telecast media came in to our lives. While it started as a medium of sharing news, with time they became a means of entertainment at home. Once a luxury, television, referred to as TV is a part of our lives since the last decade of 20th century. However, it is the 21st century which is witnessing unimaginable changes due to the technological advancement in all walks of life. It has made the world a global village with access to anything and everything from our palm. This is also the time which marked social media as a powerful voice of the common man, changing the whole scenario. Therefore, it is no surprise that this digital era has also wrapped the Media and Entertainment industry in

this revolution. The Government's focus on Digital India and the availability of smart phones at a reasonable cost and the reach of internet to all corners of the country have been key players for the emergence of the OTT platforms, in India. T stands for **Over The Top**. But what does this actually mean? **Over The Top** in which sense? If you compare the present with the era of cable TVs and DTH, you will see a vast difference. Back then, we had to depend on middlemen. Your local cable TV distributor or these set-top box companies. Today, films can be watched directly using the internet right on their website. Since these OTT Platforms reach the viewers directly, they are known as **Over The Top** as shown in figure 1. They go **Over The Top** of the traditional middlemen. As long as you have access to an internet connection either locally or through a mobile network you can access the complete service at your leisure. Also the choice it offers to the consumers in terms of content - original as well as diverse genres, at a reasonable cost and with compatibility of multiple devices (smartphone, tablet, gaming console or smart TV) making it popular.



Figure 1. Over The Top Concept

In this paper a study is conducted on the study of this OTT platforms among youth. Analysis of the utilization include discerning the OTT platforms used, time spent on them and user experience. Consumers can watch OTT content on phones (including Android, iOS, and Windows-type mobile devices), smart TVs (like Google TV, Samsung and Sony), set-top boxes (like Apple TV, Android TV and Fire TV), gaming consoles (like the PlayStation 4, Wii U, and Xbox One), tablets, and desktop and laptop computers.

Utilizing OTT platforms has several advantages, which is why they have quickly gained notoriety in India.

Cost-effective: Anyone who wants to watch digital content online can sign up and pay a monthly or yearly subscription fee, making it affordable.

Simple Access: These OTT platforms are easily accessible via mobile applications, smart TVs, laptops, tablets, etc. All you need is access to the internet.

Unique and Innovative Content: These extravagant venues have allowed a variety of innovative ideas to surface that were previously suppressed by censorship or legal restrictions.

An open platform for the entertainment industry: The main benefit of this platform is that it has given young talent a way to receive more possibilities because there are a lot more projects than there are in television or movies.

Platform for International content: Any Indian content that is posted on these sites can be seen worldwide. This expands the reach of the talent and content.

2. LITERATURE REVIEW OR THEORY DEVELOPMENT

As per the report by SBI Research ECOWRAP published in Aug 2022 [1], the OTT market is anticipated to expand by 36% annually, from Rs 2,590 crore in 2018 to Rs 11,944 crore in 2023. With over 40 players and original media content available in all languages, OTT has already reduced the revenue and share of the entertainment business by 7-9%. It is also steadily expanding. In the country, there are already over 45 crore OTT users, and by the end of 2023, this number is predicted to increase to 50 crores. A pay television or webcast program called "pay-per-view" enables customers to purchase events to watch on a private telecast. The pay-per-view market had 3.5 million subscribers in 2018 and is projected to reach 8.9 million this year and 11.7 million in 2027.

According to the SBI Research report [1], the strong growth is driven by affordable high-speed mobile internet, doubling of internet users, increased adoption of digital payments and discounted prices offered by global players. Since more than 50% of people use OTTs for more than 5 hours per month, the rise of OTT is predicted to reduce the earnings of movie theatres. It is anticipated that OTT platforms' entry into the fields of health, fitness, and education would further secure their future. The audience has started to recognize it as more than just a form of entertainment, and it has opened up new opportunities for content providers.

As many as 80% of those who subscribe to over-the-top (OTT) services say all their entertainment needs are being met through online content, according to a report published by consultancy firm KPMG India and the OTT platform Eros Now [6]. As a result, 38% of these viewers are considering giving up on traditional content viewing mediums such as the TV. The findings are based on a survey of 1,458 OTT users across 16 states. "While the intent to cut the cord may not translate into doing so eventually, more than a third of the respondents are willing to actively consider it, and that outlines the rapid growth digital video has made, and the threat that traditional video distribution could face in the long run," the report said. According to the report factors influencing the growth of online video in India are cheapest mobile data in the world, growth in rural internet penetration, growth in smartphone users in India, growth in average data usage per subscriber per month and growth in average mobile data download speed.

Summary of the key insights from the survey:

“Online video platforms are truly going mass in terms of frequency and duration of consumption. While the customer sets are fairly heterogeneous, there is a trend of homogeneity that was observed in terms of consumption frequency and duration across consumer categories”

“Indians continue to love their movies and movie related content on OTT. Original content is also emerging in a big way with a reasonable preference by respondents as compared to the supply of original content on platforms currently.”

“Long form content is gaining traction, while short form content continues to remain relevant, especially to cater to the millennial audience”

As per the report by Deloitte 'Digital Media: Rise of on-demand Content' [4] - it is noted that the rise of internet-enabled digital devices capable of supporting digitized content has led to an increase in the use of digital content globally. In India, this trend is observed across diverse platforms such as audio, visual, news, music etc. It mentions that an Indian youth, on an average spends 14% of their time and nearly 17% of their monthly expenditures on entertainment. An internet content consumer in India consumes an average of 6.2 hours of content on an everyday basis out of which 21% of the time is spent on audio-visual entertainment. A shift in consumer attitude with regard to a favoritism for OTT content and easy access to vast libraries at any time and place over content ownership is notable.

As per the report by Aditya Deshpande 'STUDY OF IMPACT OF ONLINE STREAMING SERVICES (OSS) ON YOUTH OF 18 TO 24 YEARS GROUP WITH REFERENCE TO NAVI MUMBAI' [8], OTT do affect the youth of age group 18 years to 24 years in mixed way. But researchers cannot neglect the negative ways as per the survey which have circulated in 150 people in the age group 18-24 years in Navi Mumbai shows that 64.3% people like to prefer online streaming services over TV. In the studies it has been seen that, psychology, time management are getting affected of youth by excessive watching OTT services. With 93.8% people like to use mobiles for watching, and staggering 71.7% people watching alone, this shows serious impact on human relations, and bonding. But it was also seen the positive side of OTT impact on psychology as 37% people says that it act as stress

buster. But this has no correlation with stress felt by youth if they miss watching single episode.

As per the report by Josy James "A STUDY ON THE CONSUMPTION OF OTT PLATFORMS AMONG YOUTH"[7], it is quite evident that the arrival of COVID-19 pandemic has aided the OTT platforms with the increased consumption of these by the youth and OTT becoming the most preferred medium. The major benefits incurred from the OTT platforms are the flexibility of usage, availability of cross-cultural & worldwide entertainment and subscription to the user-friendly unlimited content. Also vital are factors like increasing penetration of smartphones and availability of internet data at competitive prices in India.

3. RESEARCH METHODOLOGY

Research Design

The overall research framework was designed in to have a detailed analysis of use of OTT platforms among youth. The target audience was selected as the youth of the age group of 18 to 30 years who watch content on the internet.

The research design used in this project is Descriptive Research design as this form of research does not fit neatly into the either side of quantitative or qualitative research methodologies, but instead it can utilize elements of both.

The study is conducted among youth ranging 18-25 years which are mostly students to infer their consumption of different OTT platforms. The study is conducted through distribution of questionnaires online and a total of 115 responses were collected.

The study has used both primary data and secondary data.

Primary data: the primary data has been collected through random sampling, from the sample respondents through the schedule with the help of a questionnaire which was distributed online.

Secondary data: the secondary data has been collected from standard reference book and various websites.

Sampling Technique:

Here, the convenience sampling technique was used considering time and geographic constraints of the study. Researchers made use of Non-Probability

sampling technique, in which subjects are usually selected on the basis of their accessibility or by the purposive personal judgment of the researcher.

Main parameters are listed below:

1. *Population:* Young Adults (male & female) of Thane and sub-urban area for the Survey.

2. *Sample:* The target population of this study is young adults from Mumbai, Thane and Thane sub-urban area who prefer watching OTT.

3. *Sample size:* With the help of convenient random sampling technique researchers took 115 young adults, both male and female as the sample size.

4. *Data Collection Tool:* For the purpose of data collection questionnaire as a tool.

Research Questionnaire

An extensive questionnaire was prepared while conducting the research. The detailed questionnaire is given in Appendix.

Questionnaire Formulation

Here researchers have used both closed ended and open ended questions. Multiple choices questions were preferred here to give the respondent the options. Also the respondents should answer the questions with no ambiguity and with simple terminology.

Selection of Age Group for Study

As researchers are deciding the impact of OTT, literature suggest that, the youth of age 18 years to 25 years is best suited for watching such platforms. Also, keeping the education in mind, it was thought to have data of 3 different categories:

1. Primary College Level
2. Graduation Level
3. Post-Graduation Level

This gave us complete overview of dependent youth adult for their needs on family, may it be money or moral support. So, catering this population would be beneficial for research study.

Apart from this, communication with peers, want to know more about new things like movies, shows, trying to catch up with colleagues on the various levels (Peer Pressure), passion to learn something new as good as technology were some factors for considering only this age group.

Limitations of the study

1. This study is limited to 115 respondents of which are youth. So findings and suggestions given on the basis of the study cannot be extrapolated to the entire population.

2. The primary data collected may be biased.

4. DATA ANALYSIS/FINDINGS

DATA COLLECTION

Researchers have used both primary as well as secondary data collection methods for analysing the impact on youth by such online streaming services. Secondary data collection involved company's website, books and journals pertaining to the topic related to branding and advertising tools and promotions strategies. Both primary and secondary research have been used to draw inferences.

The online way of Google Form was selected as medium to record responses. This led us to quickly gain insights for the data preparation and filtering process.

DATA ANALYSIS

The tool used for the analysis is percentage analysis. The tools for data analysis are tables, graphs and pie charts.

4.2.1 Gender Of Respondents

GENDER	No. of respondents	% of respondents
Female	45	39
Male	70	61
Total	115	100

Table 4.2.1

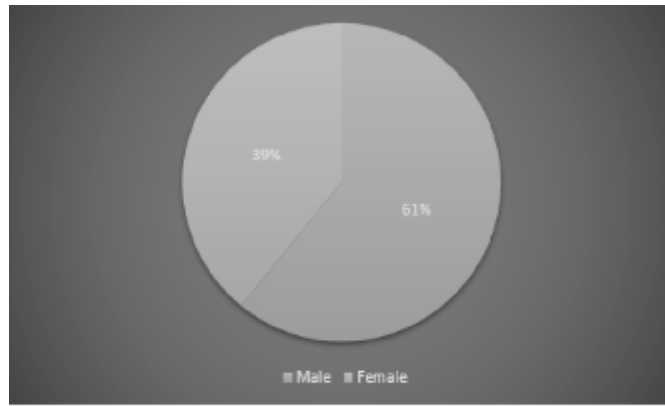


Chart 4.2.1

Interpretation

- The primary data is collected from a total of 115 respondents
 - 39% of the respondents are female
 - 61% of the respondents are male

4.2.2 OTT Platform Preference

OTT Platform preferred to watch	No. of response
Amazon Prime	20
Disney Hotstar	44
MX Player	4
NetFlix	43
SonyLiv	1
Zee5	2
Others	5
Total	119

Table 4.2.2

Note: There are multiple responses received from respondents regarding the OTT platforms preferred by them

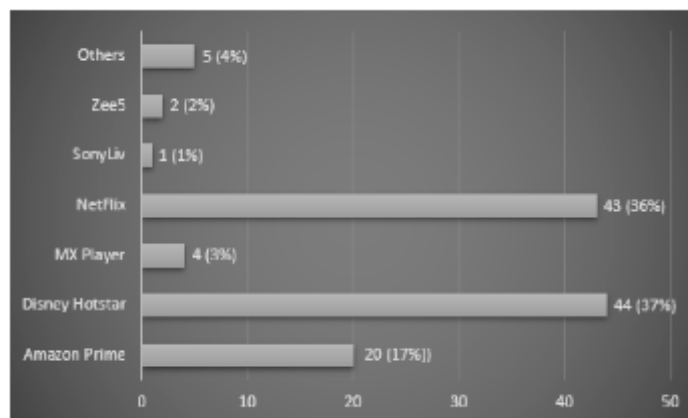


Chart 4.2.2

Interpretation:

Out of the 115 respondents, Disney Hotstar and Netflix are the most popular OTT platform being used followed by Amazon Prime. Sonyliv is used by 1% respondent and zee5 are used by 2% of respondents. The other OTT platforms used include vimeo, Zoro.to, you tube etc.

4.2.3 Pattern Of Usage

Pattern Of Usage	No. Of respondents	% of respondents
Daily	28	24%
Fortnightly	12	11%
Rarely	28	24%
Weekly	47	41%
Total	115	100%

Table 4.2.3

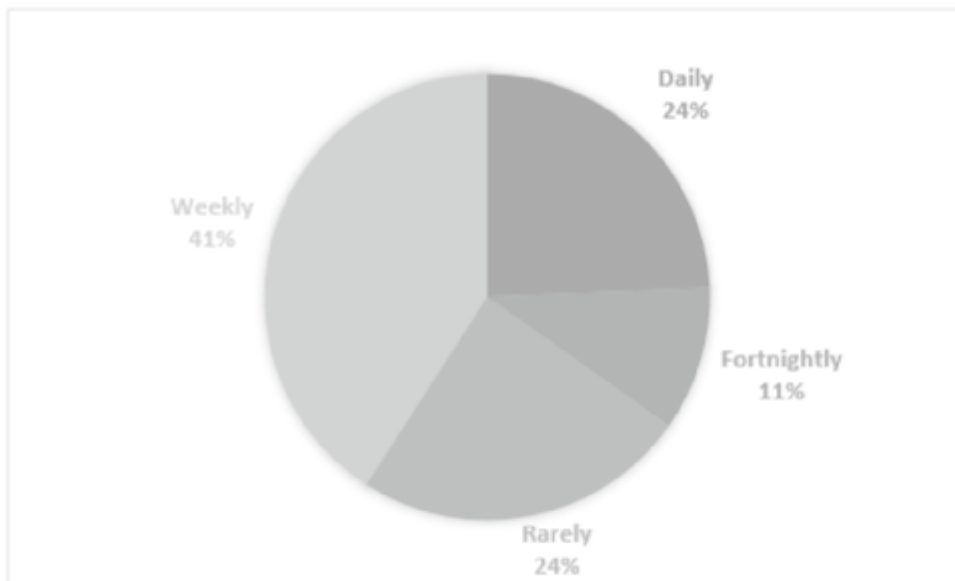


Chart 4.23

Interpretation:

41% of the respondents use OTT platforms weekly basis. 24% of the respondents consume OTT platforms very rarely. Also, there is a group of 24% of respondents who have a daily usage of OTT platforms. While remaining 11% respondents prefer to watch OTT platforms on fortnightly basis.

4.2.4 Content Preference

Content Preference	No. of responses	% response
Live Sports	13	11%
Movies	29	25%
News	2	2%
Web Series	71	62
Total	115	100

Table 4.2.4

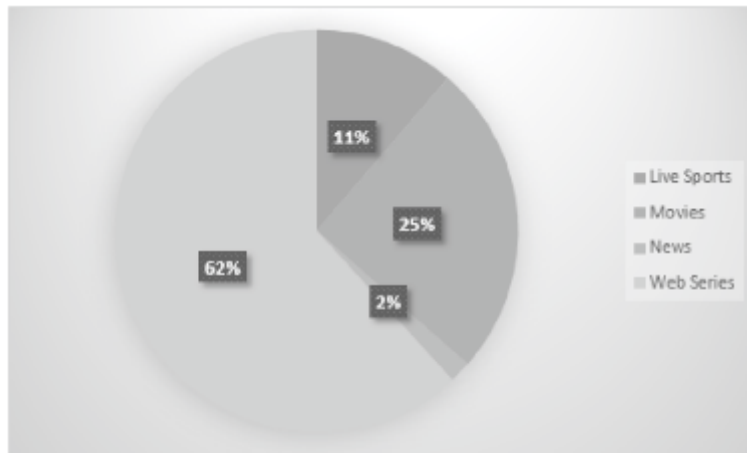


Chart 4.2.4

Interpretation:

Out of the 115 respondents, majority of them are using OTT platforms to see web series that accounts to 62% respondents. 25% of respondents watch movies on these platforms and 11% of total respondents prefer to watch live sports on these platforms. While 2% respondents prefer to follow news on OTT platform.

4.2.5 Benefits of OTT Platforms

Benefits	No. of respondents	% of respondents
Cost Effective	55	28%
Flexible Usage	72	36%
World Wide Entertainment	71	36%
Total	198	100

Table 4.2.5

Note: There are multiple responses from various respondents regarding the benefits of OTT platforms as per their perspectives.

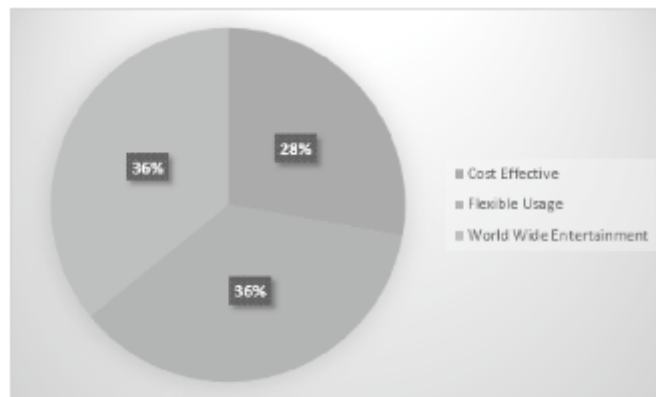


Chart 4.2.5

Interpretation:

Flexible usage and worldwide entertainment of the OTT platforms are the main attraction & benefit majority of the respondents have. While 28% of respondents likes the less costly entertainment provided via these OTT platforms.

Interpretation:

51% of the respondents are convinced that they would suggest OTT platforms to others whereas 36% of the respondents are of unspecific opinion regarding suggesting OTT platforms to others and may depend on personal matters. 13% respondents are wholly against suggesting OTT platforms to others.

4.2.6 OTT Experience Rating

Experience	No. of respondents	% of respondents
Satisfied	56	49%
Highly Satisfied	36	31%
Neutral	22	20%
Dissatisfied	0	0
Highly Dissatisfied	1	1%
Total	115	100%

Table 4.2.6

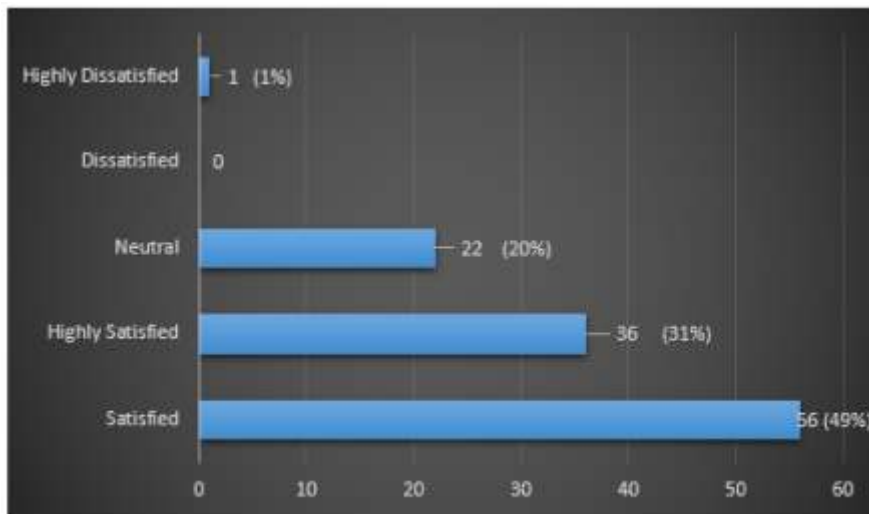


Chart 4.2.6

Interpretation:

49% of the respondents are satisfied with OTT experience, while 31% respondents are highly satisfied. There are 20% who are neutral with the OTT experience. Only 1% respondent is highly dissatisfied with the OTT experience. None of the respondent is chose dissatisfied option for the OTT experience.

4.2.7 Recommending OTT Platforms To Others

Recommending OTT Platforms	No. of respondents	% of respondents
Yes	59	51%
No	15	13%
Maybe	41	36%
Total	115	100%

Table 4.2.7

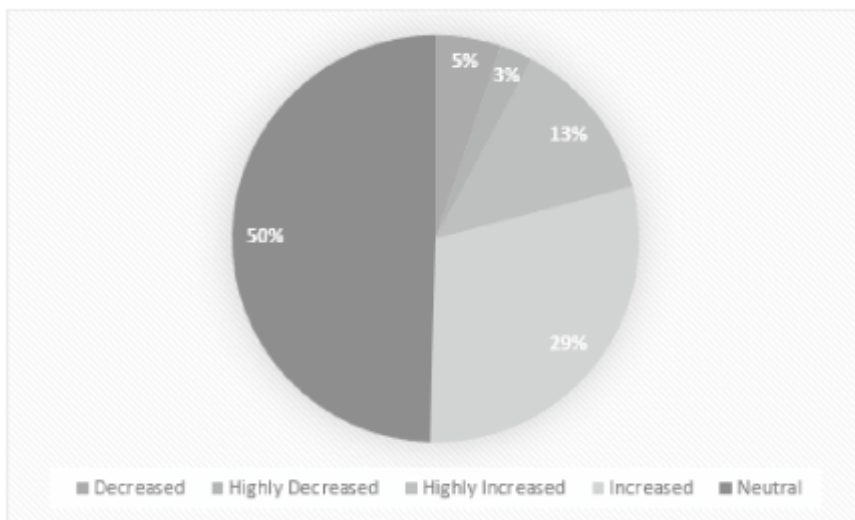
Interpretation:

51% of the respondents are convinced that they would suggest OTT platforms to others whereas 36% of the respondents are of unspecific opinion regarding suggesting OTT platforms to others and may depend on personal matters. 13% respondents are wholly against suggesting OTT platforms to others.

4.2.8 Change In Future Usage Of OTT

Future Usage	No of respondents	% of respondents
Decreased	6	5%
Highly Decreased	3	3%
Highly Increased	15	13%
Increased	34	29%
Neutral	57	50%
Total	115	100

Table 4.2.8



4.2.8

Interpretation:

While 50% of respondents plan to stay neutral on their OTT platforms usage, 29% of the respondents wish to increase their OTT platform consumption, 13% wish to highly increase their OTT platform consumption. 5% of respondents plan to decrease their usage, 3% wish to highly decrease their OTT usage.

5. 4.3 FINDINGS

Based on objectives:

(i) To measure the use of OTT platforms among youth.

- Majority of youth use the OTT platforms on weekly basis.

(ii) To determine the factors influencing the use of OTT platforms.

- Flexible usage and world wide entertainment of the OTT platforms are the most influential benefit

derived from the OTT platforms followed by cost effectiveness factor in usage of these platforms.

(iii) To recognize popular OTT platforms & content preference of youth in OTT platforms.

- Disney Hotstar is the most popular OTT platform among youth followed by Netflix and then Amazon Prime.
- Majority of the youth prefer to watch web series on the OTT platforms followed by movies.

(v) To understand the experience of using OTT platforms.

● Majority of the youth are highly satisfied with their experience of using OTT platforms & only a small group has dissatisfied with their OTT experience. While a section of population is neutral on the opinion.

6. DISCUSSION

Consumer should be provided with better subscription plan to which would be affordable to those who use the OTT platform occasionally. Also, special subscription plan should roll to for age group 18-24 years to attract new consumer. During survey, researcher found Amazon Prime Video provides special subscription plan called 'Youth Offer' for 18-24 years age group. This would help to increase consumer base. Segmentation of the user's experience are to be made from the content selection to the payment model, all have to be finely tuned to the expectations of their respective audience bases. The relationship between the streaming platform and the consumers are to be strengthened through collection of critical user feedback which would help to maintain service excellence and retain your subscribers. During survey, researcher found that youth prefers to subscribe the OTT platform in a group and share credentials. The consumers should be made aware about the negative impact of sharing login details with others and also implement steps for resisting the same.

7. CONCLUSION

As per the survey and literature review, India is world largest growing OTT industry. With that said, there are more 40 OTT platforms available in both international and regional language. Also, youth prefers to watch web series on the OTT platform, which are preferred due to the availability of the original content.

Disney hotstar, Netflix and Amazon Prime are the highest consumed OTT platforms as they satisfy their consumers with the best quality contents and worldwide entertainment.

Most of the current users of the OTT platforms are quite satisfied with their experience and majority of the consumers tend to increase their consumption of OTT in future. This trend can be successfully explored by the different OTT platforms.

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The Role of Human Resource Tech in Industry: A Remedy for Human Resource Management within an Organization

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ABSTRACT

Affecting all fields of study, economies, and sectors, the fourth Industrial Revolution is bringing in new technologies that integrate the physical, digital, and biological worlds. The way of doing business practises have changed dramatically as a result of technological advancements such as improved communication tools, computing, and the internet. Technology is profoundly changing the workplace in an unprecedented way, just as it has in every other part of life. The phrase "HR tech" (Human Resources technology) refers to a broad category of hardware and software tools used to automate key HR processes like hiring, onboarding, performance evaluation, and payroll processing. HR-Technology is no longer only a buzzword for describing contemporary trends; it is now a useful concept for increasing organisational productivity. HR-Tech has developed into a movement that is redefining the field of human resource management be it high-tech professional conduct, application advancement, and venture creation by fusing the idea of HRM with technology and ergonomic design. HR-Tech is more than just application software to support HR administration and optimise time-honored HRM. By the use of software and computing, HR-Technology is developing a new industry, i.e. the industry of innovation and systematisation. As a result, HR-tech has given birth to several enterprises, and new entrepreneurs are gravitating towards such businesses. The impact of HR-Tech on organisational HRM performance has been extensively documented, although the use of HR-Tech in business is still relatively uncommon. This article makes an effort to summarise the function of HR technology in industry and offer a remedy for human resource management within an organisation.

Keywords: HRM, HR professionals, HR-Tech, Information Technology, Employees, Performance Management.

I. Introduction

The ability to adapt quickly will offer us an advantage over our competitors. The only thing necessary for a business to be sustainable is to plan for the future. How does one go about doing that? by preparing the workforce for the future!

In the past, technology was a luxury, but today it is essential to a business's success. Several commercial organisations have embraced and used human resource technology as a result of the technological revolution to streamline HR procedures and provide them a competitive edge in a market that is rapidly changing. Technical automation is a well-known phenomenon in the operation of human resource management and other important business sectors.

In order to increase efficacy and efficiency, technology may be included into as many HR transactions as is practical. This has caused the old automation in HR to receive attention. We are aware

that the outdated traditional HR model, which was restricted to monitoring personnel records on a desk and using paper, is no longer necessary. Human resource technology, which blends HRM with information and computational technologies, has given HR professionals more power than before. Today's managers and professionals can concentrate on turning information into knowledge by using HR technology, which aids firms in adopting decision support systems (s). The focus right now is on HR and IT collaborating in a smart organisation to take use of technology. With its newly evolved strategic focus, the HR function is required to show a quantifiable impact on business outcomes. In order to improve corporate productivity and make a difference with human or financial resources by assuming the role of strategic decision-making, large multinational organisations are spending extensively in technology.

II. Role of IT in HR

The role of the HR function inside business

companies must be reconsidered in light of technological advancements, globalisation, and liberalisation. Information technology should be properly used by HR experts to build employee competencies to meet these problems as well as for corporate expansion. The application of technology can be advantageous and improve the position of all HR professionals. The business world is getting more and more competitive, and it faces new difficulties every day, such as issues with cost-cutting and productivity growth, as well as changes in the corporate environment, technology, and consumer satisfaction. The 'people' are the ones who are able to handle the market's issues today.

To enhance the HR function's commercial acumen, new jobs have been created as a result of technological innovation. The HR department may now more easily combine their datasets and deliver details on regulations, headlines, publications, etc. thanks to advances in human resource information technology. It is the most straightforward way to establish the HRIT and everyone within the firm can access it at any time. Also, it has made it possible for employees to update the data, relieving HR persons of the responsibility of maintaining and storing data. They can now focus on different crucial duties like data interpretation, planning for strategies, career development, staff training, assessment, and feedback. A range of tools, including Systems for electronic hiring, selection, performance, and compensation have been created. For example, HRIT can make it easier for candidates to contact HR specialists and learn about open positions during the hiring process without the requirement for a face-to-face interview or question. Similar to how information about an employee's abilities, traits, performance ratings, etc. may be utilised to make judgements about their promotions, feedback about an employee's performance can be used to enhance that employee's attributes. However, modern tools like the internet, email, sms, and others are very helpful for transferring and updating information as well as for carrying out activities, and they can loosen the restrictions of space and time.

III. Technological Tools Adopted by HR Professionals

In the past twenty years, technology has significantly impacted how HR is used in business and how it is transformed. Below are a few examples of technical tools used by HR experts to carry out various HR functions:

Information and communication technologies (ICT) include application software like database management systems (DBMS), spreadsheets, and data mining and data functions; Information and communication technology (LAN/WAN/neural network, internet/intranet, online portals, etc.) as well as information system software such executive information systems, decision support systems, and expert systems. They confirmed the use of computers and IT tools for management and planning duties such as managing personnel files and skill inventories, benefit and plan inventories, employee selection, employee management, and workforce planning. They also confirmed the usage of computers and IT applications for recruiting chores like position inventory, online hiring, hiring decisions, hiring management, and workforce planning.

HR technology serves as a co-pilot, assisting HR personnel to expedite time-consuming operations like:

1. Procurement: The most important role of HR is procurement. Recruitment, selection, and placement of employees are all part of it. It's getting harder and harder to hire people. To learn more about job seekers and positions, companies and employees use job boards and other technical applications, such as those noted below:

Table – 1 : Procurement

Technology Tools	Use of Technology
e-recruitment web portals Social Media Sites like Facebook, LinkedIn Induction Packages HR Planning & Forecasting	Employers post their positions and qualification. Job seekers select their expertise and apply online.

2. Employee Development: HR's role in employee development has recently become more important. Cost reductions and efficiency improvements are both necessary as a result of the increased competition. In order to boost employee productivity, firms are placing an increasing emphasis on maximising their potential and upgrading staff skills. The following technology developments are aiding the businesses in this direction:

Table – 2 : Employee Development

Technology Tools	Use of Technology
e-learning Training Need Analysis Career Development Online Appraisal System (e-performance)	Employees are given necessary inputs for career growth, up- gradation of their skills through e- learning and feedback on their performance.

3. Compensation: The motivation to work is increased by a fair reward scheme. The function of compensation in HR is yet another crucial one. The complexity of compensation management is increased by payroll, flex rewards, and other employee perks. There are several technical resources available to aid HR in efficient pay mgt.

Table – 3 : Compensation

Technology Tools	Use of Technology
Payroll, e-compensation, Compensation settlements Flexi - reward packages Facilities / benefits Administration.	The IT tools on compensation management company and the employee to discuss the compensation plans. The company can determine the cost to company (CTC) for the compensation plan awarded to employee and employee can also determine the pay he will get in hand.

4. Employee Relations, Communication and Work climate: There are several technical solutions available to assure Organizational growth, knowledge and skill management, and assist in establishing a healthy work environment and strong employee interactions. There are technologies for exchanging data, protecting data, and maintaining good communication.

Table – 4 : Employee Relations, Communication and Work Environment

Technology Tools	Use of Technology
Communication data sharing, data protection, knowledge management, Intranet, OD and Team Development.	Communication data sharing, data protection, knowledge management, Intranet, OD and Team Development. Creating Shared information environment to allow flow of information from one central point enabling smooth flow of information- upward, downward, horizontally, and outward, quick communication and better decision - making. OD exercise will help in bringing organizational change and effective team development and build better employer - employee relations.

5. Decision-Making: With complex and large organisations, managing and successfully using large amounts of data is challenging. The ability of the HR to make wise decisions has significantly changed thanks to technology. Table 5 below lists the numerous technology instruments available for

efficient decision-making:

Table – 5 : Use of Technological Tools \ for Decision Making

Technology Tools	Use of Technology
Decision Support System (DSS) Data warehouse having data mining tools Artificial Intelligence (AI) System Online Analytical Process (OLAP) Group Decision Support System (GDSS) Groupware	Technology will help you make quick business decisions through the IT tools having capability of summarizing large amount of data with speed and getting useful results

6. Human Resource Information System (HRIS): In the present day, HRIS is a crucial component of HR. The data is quickly made available to the staff, supervisors, and outside parties via the web, intranet, and business portals. The tech has replaced the previous concept of "confidential" with a new level of "transparent," which has aided in fostering a sense of trust and belonging inside the business. Table 6 lists these HRIS tools.

Table – 6 : Use of Technological Tools for HRIS

Technology Tools	Use of Technology
Internet availability of Data record of Employees, Spread of information throughout organization, employee self-service	The availability of information throughout the organization via intranet, company portals, employee portals and access of information on company policies, employee feedback etc, brings in transparency and boosts employee morale

For HR experts, these technical resources are extremely important because they will boost business productivity. Accurate information, data analysis, policy dissemination, and results will all give businesses a competitive edge over their rivals because information technology allows for the timely delivery of accurate information to the appropriate persons. Positive changes are being made to HR procedures as a result of these evolving strategies. HR professionals may carve out a niche for themselves and their company to experience ongoing market expansion by grasping and implementing these new strategies.

IV. Conclusion

From the above information, we can draw the

following inferences:

1. In order to develop creative and knowledge-based organisations, HR professionals should employ technology that enable organisational changes.

2. HR personnel can focus more of their time on the interpersonal components of the workplace rather than running after paperwork and emails. This would establish the basis for a positive organisational culture. In order to stand out in the increasingly competitive employment market, HR will play a big part in assisting employees as they learn, develop, and contribute.

3. Complete HR systems are maturing and becoming more affordable for smaller firms, along with amazing point solutions for recruiting and performance management. It will make it easier for small businesses to compete in the talent market. It promotes creativity, variety, and entrepreneurship.

4. As technology develops and education becomes more widespread, businesses will have more cost-effective solutions and will be able to offer their employees more options.

5. As soon as the economy starts to grow again, the number of would-be start-up founders will rise as they get more inclined to join the competition. Compared to the traditional HR consultants, the younger, tech-focused entrepreneurs and experts will have better opportunities.

6. In the 1980s, there was a shift in HR operations away from routine personnel functions like hiring, firing, training, development, performance reviews, and awards and towards consulting strategic business concerns and policy creation. Throughout the 1990s, HR professionals expanded the range of their operations by acting as strategic business partners, change agents, administrative experts, and employee champions.

7. According to Ulrich, throughout the first decade of the twenty-first century, HR professionals were given new roles such as strategic collaborator, functional consultant, employee supporter, human resource developer, and HR supervisor with a variety of responsibilities. Due to later globalisation, liberalisation, and increased use of technology in HR, HR professionals are now actively monitoring HR plans and procedures, tracking workers until

retirement, managing employee potential, and distributing guidance on HR-related issues. They also perform the roles of strategy maker, organisational developer, and internal consultant.

8. New technical tools, communication system, and various application software have done the duty of HR experts easier, allowing them to spend more time on policy formulation, strategic approach, and other similar tasks.

9. Computers and IT tools can be used to manage various HR responsibilities in an efficient manner. Using the Internet, web portals, video conferencing, and data warehouses, for instance, can be used to manage the functions of recruitment, employee engagement, management, and workforce planning; training, servicing, performance review, feedback, staff turnover, evaluation of punctuality and absenteeism, management and planning functions, long term planning, etc.

10. It would seem that technology will play a bigger part in HR management in the years to come. In the past 20 years, the importance of HR functions in firms has significantly expanded. The evolving scenario is likely to result in the addition of new responsibilities. Competency mapping, talent acquisition, and more recent evaluation methods like 360.

The employees are the heart and soul of any firm, and HR professionals should never forget this. They will give you back a hundred times over in feedback and productivity if we provide them a pleasant workplace experience.

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A Study on Customer Preference for Fly Ash Bricks

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ABSTRACT

The purpose of this study, which was based on a market survey, was to pinpoint the factors that influence fly ash brick quality from the standpoint of customers. With a focus on those working in the building and construction industries, questionnaires and in-person interviews were used to gather data on fly ash and clay bricks. This experiment demonstrates the benefits fly ash bricks have over traditional clay bricks. From the study, it was found that the six factors (price, weight, strength, water absorption, lesser breakage, durability) are found to be significantly related to the preference of the consumer for the fly ash bricks. It was also found that fly ash bricks were comparatively better in the aspects of price, weight, strength, durability and water absorption capacity.

Keywords: Fly Ash, Bricks, Strength, Water Absorption, Lesser Breakage, Smooth Surface, Durability, Cementsaving

1. Introduction

The money most of us in business desire is customer preference. However, what do we understand about client preferences and how can we strategically manage them? When it comes to genuinely thinking like a customer and figuring out how to stand apart from the competition in easily recognizable ways, the majority of us have a serious blind spot. Without bricks, no structure is possible. The activity of manufacturing bricks has been carried out by humans for many centuries. Bricks may now be produced quickly and easily thanks to machinery and modern technology. Bricks made of common burnt clay are created by pressing into moulds. After drying, these bricks are burned in a kiln. Common burnt clay bricks are employed in everyday work; they don't have any particularly eye-catching appearances. These bricks need plastering or rendering when they are used in walls. All across the world, bricks are used to build buildings and pave roads. Brick is now more frequently utilized as a decorative surface than as a roadway material in the United States, where it was historically used as a paving medium. In order to maximize a structure's stability and strength, bricks are typically laid flat.

FLY ASH BRICKS IN CONSTRUCTION

The recommendation and projects are being passed to utilize fly ash brick for the construction job because it

has not been employed frequently or on a significant scale. These bricks have been employed for building purposes up until this point. A number of new types of construction materials that are now widely utilized and in high demand were developed as a result of the changing times, styles of construction, and types of construction work that are being done today. Bricks are currently the most significant building material that has undergone periodic alteration. For all types of construction, it is the most important material. Without it, every structure's construction is still in progress. The amount of bricks needed varied depending on the construction project. The type of building work that will be done affects the bricks that are used as well. For instance, mud bricks were used to create a comfortable temperature, etc. A new sort of brick called "FLY ASH BRICKS" is now rapidly becoming available for use in construction. Despite not being widely desired, it has been utilized in a number of significant undertakings. The customer preference for fly ash bricks, their applications, and their economic viability in comparison to other bricks will all be demonstrated in this report analysis.

2. Review of Literature

P. Dixit et al. (2014) investigated the factors that affect fly-ash brick quality from the consumer's point of view. The brick industry has enormous potential and has to be investigated. When compared to clay

bricks, fly-ash bricks are more affordable from a pricing perspective. The study gave credit to a number of variables, including shape, weight, durability, breaking, seepage, and strength. The snowball sampling method was used to sample a total of 78 consumers, and the Pearson's correlation coefficient was used to analyze the data and evaluate the hypotheses. The results showed a substantial correlation between weight, strength, durability, breakage, seepage, surface smoothness, and shape with quality, with p-values less than 0.05.

According to A.Agrawal et al. (2014), bricks are just one of the many building materials used in the construction industry. Fly ash bricks are safer, more affordable, and stronger than clay bricks. The customer's perception of the quality (i.e., the advantages) is more significant than the quality itself when examining the quality from the standpoint of adoption. The goal of the study is to determine how perceptions of the quality of fly ash bricks affect their intended use. The study gave credit to a number of elements, including price, strength, durability, the use of less cement, light weight, and less water absorption. A total of 78 respondents were chosen using the snowball sampling method, interviewed, and their responses were then examined using Pearson's correlation. As the p-values are less than 0.05, the results showed that there is a significant association between these two.

According to Aakash Suresh Pawar and Devendra Bhimrao Garud (2014), the manufactured fly ash bricks could weigh as little as 10.60% less than clay bricks. The compressive strength of bricks made from fly ash is higher than that of regular bricks. Compared to fly ash bricks, clay bricks can bear higher weight. The amount of water absorbed by fly ash bricks is less than what is required by I.S. Bricks made of fly ash and clay do not effloresce. The goals of the study were to: I determine the impact of adding fly ash to bricks;

(ii) build bricks without sacrificing their strength; and

(iii) safeguard the environment by disposing of fly ash. Fly ash bricks were subjected to a number of tests to compare their load-bearing capabilities to those of clay-made bricks.

Ajish George (2015) says that use of fly ash bricks to be mandatory .The central government is planning to

make it compulsory to use bricks made out of fly ash in 20 construction hotspots in the country. Fly ash is a residue generated during the combustion of coal. Fly ash is available in plenty since a large quantity of coal is burned in thermal power generation. The present move by the government is to make use of this hazardous waste product in an environment friendly manner. All construction activity within this area will also have to use fly ash based products for construction. However there have been some health concerns regarding the use of fly ash as it is a toxic substance and it is considered as an inferior building and construction material.

Balaraju Sivagnanaprakash (2015) investigated the risks associated with clay brick and the benefits of fly ash brick extending. In comparison to traditional clay bricks, QFAC bricks' compressive strength, tensile strength, durability, water absorption, impact resistance, and thermal conductivity were examined. QFAC brick had a 15% better compressive strength than clay brick. It was discovered that QFAC brick had twice the flexural strength of clay brick.

Ravi Kumar et al (March 2014) studied the behavior of fly ash bricks. Compressive strength tests, water absorption tests, efflorescence tests, weight tests, and structural tests were carried out in order to compare the results with those of regular bricks. The outcome showed that the test results for compressive strength, water absorption and efflorescence, and reduced weight were superior to those of ordinary brick.

Ravi Kumar, Deepankar Kr. Ashish, Najia L.(June 2015) looked at how to make non- traditional bricks more affordable. The goal of this study is to prepare materials for low-cost housing projects without sacrificing their robustness and endurance. The non-traditional brick will be simple to handle and transport, take less labor to handle during industrial activity, and lower construction costs without sacrificing the strength of the building.

Statement of the Problem

The market has a wide variety of brick and block varieties that can be used to build walls. Each business competes on the basis of strong performance, value, novel features, and promotions. Many customers are using clay bricks (a conventional bricks) due to its early existence and no other alternatives. This inturn have resulted in infertility of the soil. Also there are large emissions of thermal coal in terms of thermal energy production. This poses a serious threat to the

environment. To overcome this problem, Fly Ash brick plays a predominant role in replacing clay bricks. But the perception towards the Fly Ash bricks is not highly commendable. With this scenario, the researcher had made an attempt to study the preference towards the Fly Ash bricks.

The market study may be the greatest source to learn about builders' perceptions and expectations of Fly Ash Bricks because the company also has future plans to introduce new building materials that fall within the area of eco-friendly building materials.

3. Objective of the Study

To find out the customer (especially Builders) preferences towards Fly Ash Bricks in Erode district. To identify the customer preference on Fly Ash bricks among the construction professionals in Erode district. To compare the fly ash and clay bricks in terms of price, weight, strength, water absorption, Lesser breakage, Smooth surface, Durability and cement saving. To access the factor that influences the purchase of Fly Ash Brick. To access the performance of Fly Ash Brick on various factors.

4. Scope of the Study

The construction operation did not make extensive use of these bricks. However, it has a bright future because fly ash, a waste product typically derived from industrial waste, is used to make these bricks. The production of these bricks will broaden their application in construction. The specific qualities of the Fly Ash brick such as high compressive strength, better workability and fire resistance will increase its future scope in construction work. Since this product is eco-friendly and economical product there would be a large scope in terms of its usability. The study on the preference towards the Fly Ash brick would further enable the researcher to get an insight into market proportion, changing trends in construction material, adaptability and alternate source of raw material etc. This would further help the company to understand its market position and its future possibility for expansion

5. Limitation of the Study

It is difficult to measure the preference of the respondents exactly. Therefore the result of the study cannot be considered to be precise. The customer's preferences change from time to time, thus the project's outcome might not be applicable in the long run. Data collection was very difficult because the respondents do not spare adequate time to respond for

the Questionnaire. Difficulty in communicating the questionnaire to the direct customer and dealers to the company (perception barrier). Some customers were not willing to give appointment due to their busy schedule.

6. Research Methodology

The research is done for the academic purpose. Therefore the research design adopted is 'Descriptive Research', where the objectives are set as the first step. Then necessary data collection tools are used to collect the data and finally a report is prepared after the collected data is analyzed. The primary goal of descriptive research is to explain the current situation as it stands. It usually entails fact-finding investigations and surveys of various kinds. In connection to the preference factor involved in the purchasing of Fly Ash Brick, this researcher seeks to characterize the respondent's traits. The customer who visit or purchases the fly ash brick in the Erode District constitute the population for the study. Since the number of people who prefer to buy fly ash brick is unknown and the approximate number of people cannot be predicted approximately, the population for the study could not be defined. The sample for the study is selected in two ways. The people who visited the company for purchase and the people in company's customer database constitute the sample for the study. The sample for the study is 117 customers. Since the population size is unknown, the researcher has adopted convenience sampling (non-probabilistic) technique to select the sample.

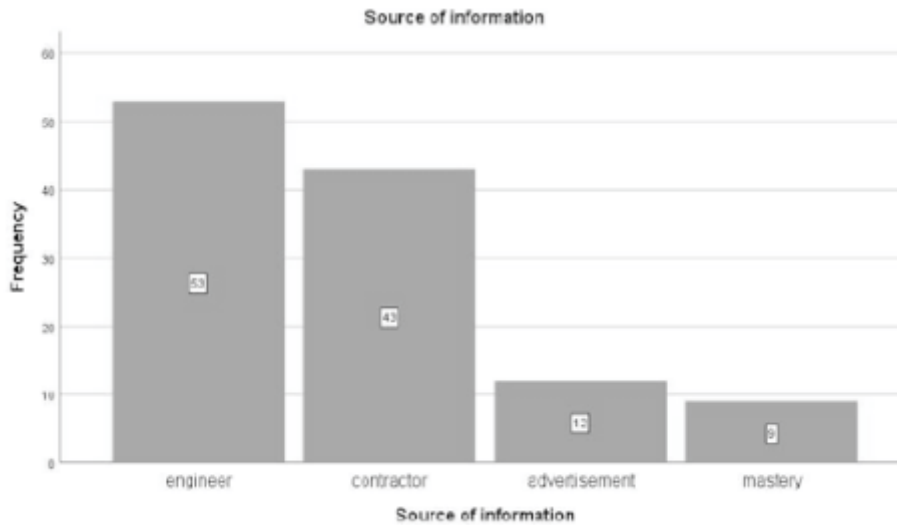
7. Analysis and Interpretation

Purpose of purchase		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	self use	45	38.5	38.5	38.5
	commercial use	57	48.7	48.7	87.2
	business use	15	12.8	12.8	100.0
	Total	117	100.0	100.0	

The above table shows that 45% of the respondents purchase the fly ash bricks for self use, 357% of the respondents purchase the Fly ash bricks for commercial use and 15% of the respondents purchase the fly ash bricks for business use.

Figure 1 Source of Information

The above table shows that 53% of the respondents received information from Engineers 43% of



the respondents got information from contractor, 13% of the respondents got information from advertisement and 9% of the respondents source of information was from its mastery.

Types of bricks brought	Frequency	Percent	Valid Percent	Cumulative Percent
Valid fly ash bricks	60	51.3	51.3	51.3
clay bricks	8	6.8	6.8	58.1
both	49	41.9	41.9	100.0
Total	117	100.0	100.0	

Types of health issues faced	Frequency	Percent	Valid Percent	Cumulative Percent
Valid skin related	15	12.8	12.8	12.8
breathing issues	37	31.6	31.6	44.4
heat effect	49	41.9	41.9	86.3
others	16	13.7	13.7	100.0
Total	117	100.0	100.0	

Usage for weathering course		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	better usage	43	36.8	36.8	36.8
	at par with clay bricks	61	52.1	52.1	88.9
	no use at all	13	11.1	11.1	100.0
	Total	117	100.0	100.0	

CORRELATION BETWEEN OPINION ON USING FLY ASH BRICKS AND PRICE

Null Hypothesis (Ho): There is no significant correlation between opinion on using fly ash bricks and price.

Alternate Hypothesis (Ha): There is a significant correlation between opinion on using fly ash bricks and price.

Table 5 CORRELATION BETWEEN OPINION ON USING FLY ASH BRICKS AND PRICE

		Opinion towards fly ash bricks	Price
Opinion towards fly ash bricks	Pearson Correlation	1	.831**
	Sig. (2-tailed)		.000
	N	117	117
Price	Pearson Correlation	.831**	1
	Sig. (2-tailed)	.000	
	N	117	117
**. Correlation is significant at the 0.01 level (2-tailed).			

From the correlation table, it is observed that the significant value ($p=0.000$) is lesser than critical value (0.05) for this study. Hence, H_a is accepted and H_o is rejected. So it is concluded that there is a strong correlation between opinion on using fly ash bricks and price.

CORRELATION BETWEEN OPINION ON USING FLY ASH BRICKS AND WEIGHT

Null Hypothesis (Ho): There is no significant correlation between opinion on using fly ash bricks and Weight.

Alternate Hypothesis (Ha): There is a significant correlation between opinion on using fly ash bricks and Weight.

Table 6 Correlation between opinion on using fly ash bricks and weight

		Opinion towards fly ash bricks	Weight
Opinion towards fly ashbricks	Pearson Correlation	1	.861**
	Sig. (2-tailed)		.000
	N	117	117
Weight	Pearson Correlation	.861**	1
	Sig. (2-tailed)	.000	
	N	117	117
** . Correlation is significant at the 0.01 level (2-tailed).			

From the correlation table, it is observed that the significant value ($p=0.000$) is lesser than critical value (0.05) for this study. Hence, H_a is accepted and H_0 is rejected. So it is concluded that there is a strong correlation between opinion on using fly ash bricks and Weight.

CORRELATION BETWEEN OPINION ON USING FLYASH BRICKS AND WATER ABSORPTION

Null Hypothesis (H_0): There is no significant correlation between opinion on using fly ash bricks and water absorption.

Alternate Hypothesis (H_a): There is a significant correlation between opinion on using fly ash bricks and water absorption.

Table 7 Correlation between opinion on using fly ash bricks and water absorption

		Opinion towards fly ash bricks	Water absorption
Opinion towards fly ashbricks	Pearson Correlation	1	.913**
	Sig. (2-tailed)		.000
	N	117	117
Water absorption	Pearson Correlation	.913**	1
	Sig. (2-tailed)	.000	
	N	117	117
** . Correlation is significant at the 0.01 level (2-tailed).			

From the correlation table, it is observed that the significant value ($p=0.000$) is lesser than critical value (0.05) for this study. Hence, H_a is accepted and H_o is rejected. So it is concluded that there is a strong correlation between opinion on using fly ash bricks and water absorption.

ONEWAY ANNOVA ANALYSIS

DIFFERENCE BETWEEN TYPE OF THE BRICKS USED AND PRICE

Null Hypothesis (H_o): There is no significant difference between type of the bricks used and price.

Alternative Hypothesis (H_a): There is a significant difference between type of the bricks used and price.

Difference between type of the bricks used and price

Reason to use fly ash bricks	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					strongly agree	429		
agree	503	2.5133	.60771	.08594	2.3406	2.6860	1.11	3.56
neutral	187	2.8827	.71245	.16793	2.5284	3.2370	2.00	4.22
disagree	42	4.2222	.18144	.09072	3.9335	4.5109	4.00	4.44
strongly disagree	34	4.4074	.33945	.19598	3.5642	5.2506	4.11	4.78
Total	1174	2.4074	.86165	.07966	2.2496	2.5652	1.00	4.78

Reason to use fly ash bricks

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	47.302	4	11.826	34.117	.000
Within Groups	38.821	112	.347		
Total	86.123	116			

From the above table it is observed that the p value is 0.000, which is less than the critical value 0.05. So Ho is rejected and Ha is accepted. Hence we conclude that there is a significant difference between type of the bricks used and price.

DIFFERENCE BETWEEN TYPE OF THE BRICKS USED AND WATER ABSORPTION

Null Hypothesis (H0): There is no significant difference between type of the bricks used and water absorption.

Alternative Hypothesis (Ha): There is a significant difference between type of the bricks used and water absorption.

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	67.678	4	16.919	102.734	.000
Within Groups	18.446	112	.165		
Total	86.123	116			

From the above table it is observed that the p value is 0.000, which is less than the critical value 0.05. So Ho is rejected and Ha is accepted. Hence we conclude that there is a significant difference between type of the bricks used and water absorption.

Difference Between Type of the Bricks Used and Lesser Breakage

Null Hypothesis (Ho): There is no significant difference between type of the bricks used and Lesser Breakage.

Alternative Hypothesis (Ha): There is a significant difference between type of the bricks used and Lesser Breakage.

Table 11 Difference between type of the bricks used and lesser breakage

Descriptives								
Reason to use fly ash bricks								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	14	1.4524	.36061	.09638	1.2442	1.6606	1.00	2.00
2	45	1.9012	.37171	.05541	1.7896	2.0129	1.22	3.00
3	39	2.6553	.51790	.08293	2.4874	2.8232	1.78	4.22
4	10	3.5667	.45194	.14292	3.2434	3.8900	2.89	4.33
5	9	4.0617	.44135	.14712	3.7225	4.4010	3.44	4.78
Total	117	2.4074	.86165	.07966	2.2496	2.5652	1.00	4.78

ANOVA					
A					
Table 12 Reason to use fly ash bricks					
	Sum of Squares	df	Mean Square	F	Sig.
Between	64.764	4	16.191	84.90	.000
Groups				1	
Within Groups	21.359	113	.191		
Total	86.123	116			

From the above table it is observed that the p value is 0.08, which is less than the critical value 0.05. So H_0 is rejected and H_a is accepted. Hence we conclude that there is a significant difference between type of the bricks used and durability.

8. Findings

57% of the respondents purchase the fly ash bricks for commercial use. 28% of the respondents buy fly ash bricks for its less price. 53% of the respondents received information on fly ash bricks from engineers. 58% of the respondents use the bricks for building industrial house. 60% of the respondents rely only on fly ash bricks. 57% of the respondents were using fly ash bricks for less than 2 years. 63% of the respondents use fly ash bricks for building interior wall. 62% of the respondents preference it for wall without structural stability.

Opinion on Various Attributes of Fly Ash to Clay Bricks

42% of the respondents said that the fly ash was strong when compared to clay bricks was strong. 58% of the respondents said it was convenient. 66% of the respondents said that there was less delivery time. 68% of the respondents felt there was no health problem in using fly ash bricks. Out of 49%, 37% of the respondents faced breathing and heat issues. 54% of the respondents felt to be low price. 52% of the respondents said that no difference in the quantity of cement. 50% of the respondents felt that the wall appeared good. 58% of the respondents felt that fly ash bricks were convenient for interior design work. 61% of the respondents felt that it was in par with clay bricks for weathering course.

Relation Between Opinion on using Fly Ash Bricks and Various Attributes

It was found that there is significant difference in

using fly ash bricks to various attributes such as (price, weight, water absorption and lesser breakage). The significance was due to the qualities such as fly ash being economical, easy to handle, less water absorption and lesser breakage.

Difference Between the Bricks used and Various Attributes

It was found that there is a significant difference between the types of bricks used and various attributes such as (price, water absorption, lesser breakage and durability). The difference exist due to the specialties like cheaper than other form of bricks, absorbs less water and have lesser breakage while handling and transporting.

9. Suggestion

Since awareness of fly ash bricks are found to be low among customer, higher promotional campaign could be done to improve its awareness level. Availability can be increased by manufacturer so that the three will be increase in the number of customer. It was proposed by many business customers that mixing of lime and gypsum could improve the strength of the brick. So the company can take an initiative to improve the bricks strength further. For an increase in sales, the manufactures should concentration more on commercial building than individual residential consumers. Availability of the fly ash bricks have to be made extensively. The company can strengthen its dealer network either by opening a number of direct retail Outlets or finding new distributors. Dealers can be educated about the importance and feasibility of using fly ash bricks, So that the dealers in turn educate their customers.

10. Conclusion

Fly ash is now used more frequently in the production of construction materials since it is now more readily

available and because fly ash disposal causes enormous challenges. According to the study, six of the eight fly ash brick parameters examined (price, strength, weight, water absorption, lower breakage, and durability) are found to substantially differ from one another in terms of how fly ash bricks are perceived, with a p-value of less than 0.05. It was determined that fly ash brick was superior in terms of cost, strength, and weight. These are strong and barely absorb any water. Bricks made of fly ash reduce construction costs overall. Fly-Ash bricks are environmentally beneficial because they save topsoil and make use of leftover coal from thermal power plants, both of which help to safeguard the environment.

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