Metric 3.3.1

Number of Research Papers Published Per Teacher in the Journals Notified on UGC CARE List

2021-22

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Criterion III: - Research, Innovations and Extension

Key Indicator: 3.3 Research Publications and Awards

3.3.1 Number of research papers published per teacher in the Journals notified on UGC CARE list during year 2021-22

Sr. No.	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Calendar Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal /Digital Object Identifier		Is it listed in UGC Care list
							Link to website of the Journal	Link to article / paper / abstract of the article	
1	A Study on Transformation of Marketing Practices through Artificial Intelligence	Dr. Sajid Alvi	MBA	Turkish Online Journal of Qualitative Inquiry (TOJQI)	2021-22	1305-3515	http://ilkogretim-online.org	https://ilkogretim-online.org/index.php/pub/article/view/5066/4910	UGC Care Listed
2	Hook Your Customer In Digital Space	Dr. Manisha Khaladkar	MBA	Empirical Economics Letters	2021-22	1681-8997	http://www.eel.my100megs.com/volume-20-number-november-2-special-issue.htm	http://www.eel.my100megs.com/volume-20-number-november-2-special-issue.htm	UGC Care Listed

Criterion III: - Research, Innovations and Extension

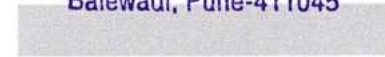**Key Indicator: 3.3 Research Publications and Awards**

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3	Recent Trends In Green HRM Practices And Its Impact On Environmental Sustainability	Dr. Asita Ghewari	MBA	Elementary Education Online	2021-22	1305-3515	https://ilkogretim-online.org	https://ilkogretim-online.org/fulltext/218-1675788623.pdf?1683886341	UGC Care Listed
4	Social Media Marketing Strategies of E Learning Organizations with Special Reference to Elementary Education	Dr. Asita Ghewari	MBA	Elementary Education Online	2021-22	1305-3515	https://ilkogretim-online.org	https://www.ilkogretim-online.org/fulltext/218-1665760687.pdf	UGC Care Listed

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5	Stress among students due to online learning during covid -19 and coping strategies	Dr.Manisha Verma	MBA	PIMT Journal of Research; Vol-13, No-3, April–June 2021 issue	2021-22	2278 - 7925	https://pimtjr.in	https://pimtjr.in/wp-content/uploads/2021/06/Abstracts-PIMT-Journal-of-Research-Vol-13-No-3-April%E2%80%93June-2021-issue-1.pdf	UGC Care Listed

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6	Role of Fintech To Accelerate India's Economy	Nilambari Moholkar	MBA	European Chemical Bulletin	2021-22	2063-5346	https://www.eurchembull.com/	https://www.eurchembull.com/uploads/paper/9ccfb68525739443c61f2ecec5bb50d0.pdf	
7	Impact of Self-Help Group On Women Empowerment With Reference To Palghar District	Dr. Poonam M. Khadke	MBA	International Journal of Multidisciplinary Research and Technology,NA	2021-22	2582-7358	https://www.ijmrt.in/topics.html	https://www.ijmrt.in/archives.html	

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8	Study the influemce of Human Capital on the Economic and Organizational Development of Automobile Companies	Dhananjay Bhavsar	MBA	Journal of Management & Entrepreneurship	2021-22	2229-5348	https://xime.org/jme/jme-home	https://www.researchgate.net/publication/365275153_Bhavsar-Mirji-JME-Publication	UGC Care Listed

Criterion III: - Research, Innovations and Extension

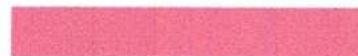**Key Indicator: 3.3 Research Publications and Awards**

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9	Development of Mobile Application that Detects Phishing Messages to Decrease the Percentage of Data Theft during the COVID-19 Pandemic	Dhananjay Bhavsar	MBA	International Journal on Recent and Innovation Trends in Computing and Communication	2021-22	2321-8169	https://ijritcc.org/index.php/ijritcc	https://ijritcc.org/index.php/ijritcc/article/view/5733/5479	Scopus
10	Impact of organizational culture on employee engagement and effectiveness	Dhananjay Bhavsar	MBA	AMERICAN JOURNAL OF ECONOMICS AND BUSINESS MANAGEMENT	2021-22	2576-5973	https://globalresearchnetwork.us/index.php/ajebm	https://www.researchgate.net/publication/367309332_Impact_of_Organizational_C	

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11	Consumer Buying Behavior Towards FMCG Products With Special Reference To Latur District	Prof. Mayadevi Jadhav	MBA	AJANTA Publications UGC Listed Peer Review Journal	2021-22	2277-5730	https://www.ajantaprakashan.in/brochure/2018/Ajanta%20Brochure.pdf	Print Only	UGC Care Listed
12	Brand Awareness And Buying Behavior Of Adolescence Students For Body Care Products - Study Conducted For District Ahmednagar	Prof. Mayadevi Jadhav	MBA	Shodhasamhita : Journal of Fundamental & Comparative Research	2021-22	2277-7067	https://kksushodhasamhita.org/index.php/sdsa/issue/archive	Print Only	UGC Care Listed

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13	An Analytical Study of Investors' Perception Towards Investing in Equity Mutual Funds During COVID-19 Situation"	Dr. Varsha Goyal	MBA	ECS transactions (Scopus Indexed Journal)	2021-22	1938-6737	https://iopscience.iop.org/journal/1938-5862	https://iopscience.iop.org/article/10.1149/10701.6865ecst/meta	Scopus

A Study On Transformation Of Marketing Practices Through Artificial Intelligence

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Abstract:-This is the age of disruptive technologies where the technologies like IIOT, Big data analytics, Artificial intelligence, Machine learning and Block chain have changed the ways that business operates. Amongst all, AI i.e. Artificial Intelligence gains immense power to drive the businesses with a greater speed and bring transformational changes. Current study was conducted considering role of AI in marketing functions of the businesses. A qualitative approach has used by collecting the data from scholarly work by researchers, industry reports and reputed blogs. It was attempt to explore the concept of AI through marketing practices, its current applications and future prospective. Research study provides benefits of AI implementation in marketing. It explores how AIM technology affects the marketing decisions. The readers and research scholars would have a complete overview of the AI in marketing through the research paper.

Keywords: -Artificial Intelligence, Digital Marketing, Intelligent marketing, Machine Learning, Marketing Strategies, Marketing decisions, Predictive analysis.

Introduction

The technology advancement, innovations and evolution in recent years have kept the industries to move on. Marketing has reached a point where the transformation can be observed distinctly through adopting technological advancement. Evolution in information technology like IIOT, Big data analytics and Artificial Intelligence have changed the ways the marketing practices operates in various industries. Considering all the innovations bought by IT sector, Artificial intelligence is observed as one of the disruptive technologies that hold a massive potential to bring the transformation in the marketing field. However today most of the organisations are trying to find out the best AI solutions suitable to their marketing functions. Artificial Intelligence bought the efficiency, effectiveness and much more improvement in current marketing functions that assures exclusive new ways of creating and delivering the values to customers.AI offers the optimum technology that enhances customer experiences and it let the
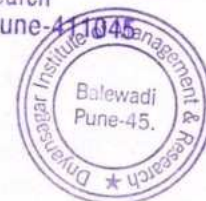
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organizations to know the changing needs, preferences and expectations by collecting a huge amount of data systematically. An AI tool collects the qualitative as well as quantitative data in short span of time that help them to bring the changes and boost the performance rapidly. Therefore current research paper is an attempt made to understand the transformation bought by AI in the Marketing field and its future prospective.

Objectives Current study has been conducted with following aim and objectives.

- To understand the concept of artificial intelligence marketing
- To explore the scope of Artificial Intelligence in Marketing functions
- To conduct systematic literature review on AIM through authenticate sources
- To understand future scope of AI in business domains
- To determine the effect of AI in various areas of marketing decisions

Considering above objectives an extensive literature review was conducted. Literature was selected from authentic and relevant sources.

Research Methodology

Explorative Research Design was used in the research. Focus was on qualitative data hence inferences were drawn on the basis of literature reviewed. Data used in literature review was collected through secondary data sources. These were consisted with research paper published in Scopus, Elsevier journals, Emerald journals, and UGC CARE listed journals. Various reputed blogs related with AI, reports published by esteemed organizations and reference books were also referred for literature review.

Scope of the Study Functional scope of the study was confined with two terms i.e. Artificial Intelligence and its applications in Marketing. Both the respective concepts are very vast and hence AI and Marketing were studied with selected parameters in the study. Current situations of adopting AI in Marketing functions, its future prospective t were primarily studied through the research.

Concept of Artificial Intelligence "Artificial Intelligence or AI is a field of Data Science that trains computers to learn from experience, adjust to inputs, and perform tasks of certain cognitive levels." Artificial intelligence is the branch of data science where computers functions like human being. Its emergence in the data science has changed the various business domains drastically. It helps the organizations to take most appropriate decisions especially real time decisions through insights derived from the data.

Organizations are investing a huge amount on AI research and development. Despite the

current pandemic situation most of the organizations found no effect on their investment in AI rather investment increased substantially. AI in future is all set to define global competitiveness in coming years with noteworthy economic and strategic advantages.

AI enables the machines to learn and predict from the experiences and work like a human brain. Using AI computers can collects large amount of data and recognize the patters in it. Organizations with more data will lead the market. AI adds intelligence to machines and achieves incredible accuracy. It automates repetitive and consistent learning to machines that helps to discover more from the data.

AI & Marketing: -Business making decisions is a complex and critical and varies with situations. Business experts found that AI has a tremendous potential to collect large amount of data from the different sources simultaneously, analyse it instantly and provide the bases for decision making. Deloitte report explored that all the domains in the business will be overcome by AI especially in marketing domain. AI will help the organizations for simulation, real time data gathering, forecasting, trend analysis etc. It will be found very vital in customer relations management where organizations can automate the functions like database management, contact management, prediction in terms of CLTV i.e. customer lifetime value etc.

Significance of AI in Marketing

From last few years influence of AI can be observed in various marketing functions as helps the marketer to understand customer better and improve customer experiences. It helps the organizations through predictive customer's analysis and makes customer journey more meaningful, targeted and individual customer tailored. AI speedup the overall marketing decisions. AI is found significant in augmenting marketing teams and perform critical task easily. AI reduces marketing cost and minimizes complexities in decisions. Optimization of time, cost and resources as well as effective outcomes of decisions can be obtained through AI. Following diagram reflects the areas in marketing where AI has a substantial role.

AI in Marketing Functions

AI for Customers:-

AI has equal importance for customers in many ways as it enhances the shopping experiences, faster decisions, more information, and use of sentiment analysis from customer feedback. Major areas where AI can help the customers are mentioned in the following areas.

Big pay-off from AI in Marketing

Harvard business review published a report on accelerating sales and marketing through Artificial Intelligence. It has explored the opinions of 320 experts and predicted how AI will shape the businesses in the future. Following is the statistics discovered through the survey.

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Expected outcomes after implementing AI in next three years.
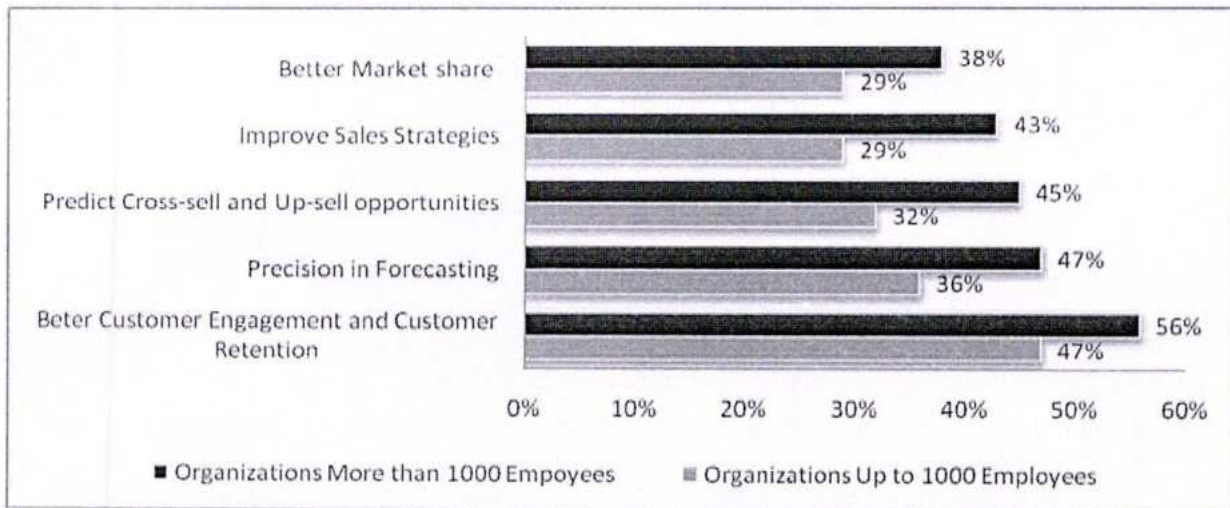
Source: Harvard Business Review Analytic Services, May 2019

Literature Review

An extensive literature review was conducted though scholarly works of scientific researchers, latest studies in the field of AI , established thoughts and related literature, articles and data from renowned scientific journals, blogs etc.

Dan Dumitriu, Mirona (2020) Researcher have developed a four step sequential model that helps the organizations to improve their visibility of the website through various keywords. These steps were consisted with make relevant topics and themes for making website more accessible, usage of online tools for searching the key words, keywords search in search engines, and analysis of those key words etc.

Savica Dimitrieska, Aleksandra Stankovska and Tanja Efremova (2018) Current study highlighted how AI helps the organizations for predicting consumer buying preferences, their next purchases and improve their customers journey. AI helps to deliver the right messages to the right consumers i.e. target consumers through proper medium. Content in the messages carry lots of importance in AI. Challenges in implementing are data breaches and preventing frauds.

Arnaud De Bruyn, Vijay Viswanathan (2020) Authors have discussed the opportunities and pitfalls in AIM. Knowledge creation and knowledge transfer were the two variables focused in the study. Significance of AI in marketing through predictive task and automated explanation through chat boats were elaborated in the research.

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Michael Haenlein, Matthew J. Schneider, Abhijit Guha (2021) Researchers examined the adoption AI and its effects in retail industry. Researcher suggested that retail managers should adopt AI considering various factors like value creation to customers, effective retailing, ethical concerns etc. Authors have explained that AI will be more effective if they focus on augmenting managers judgements.

Christi Olson and Jennifer Levy (2017) Automation in marketing and its results were highlighted through the research study. Study found that automation based marketing is effective in bringing better results, creative development, personalization in marketing activities execution, builds life time value models and deeply focused customer relationship.

Thomas Davenport, Timna Bressgot (2019) Multidimensional framework to study the effect of AI in marketing was developed in the study. It was consisted with intelligence levels, task types, and embedded AI in robot etc. The model also focuses on effect of AI on marketing strategies, consumer behaviour etc. Researcher also discussed the privacy issues, bias in data, ethics in AI implementation and practices.

Melanie Florence Boninsegni (2021) Industrial fourth revolution-new technological advancements and its pros and cons on consumers well-being were focussed in the research study. Researcher found that new technologies like AI, Robotics, blockchains etc. providing advanced approaches towards their day to day decisions in the fieldof healthcare, education, financial aspects etc. Author observed that these technologies are disruptive technologies and they are changing the realities of consumers and service providers.

Gang Li, Muhammad Zafeer Shahid (2019) It was a qualitative research approach where researcher conducted an interviews with marketing professionals. Study found that AI helped these professionals to improve their performance in terms of sales and market share. AI helps them in Pricing, promotion, production, distribution and product planning. Predictive models were developed for planning future strategies in marketing. Competitors pressure, digital literacy, digital maturity, media attention, revolution in IT and consumers preferences were major affecting factors for adopting AI in marketing. Authors suggested that managers should follow the aspects and challenges in AI before actually they implement in marketing.

N Ramya and Dr. SA Mohamed Ali (2016) Researchers have explored on consumer buying process and factors affecting on it. Study observed that factors like demography of customers, culture, social class, family members, personality traits and psychological factors are influencing factors affects on customers purchase decisions.

X. Zhu, Z. Tan, September (2012) Current research was conducted with the aim of

understanding SEO key word analysis as well as its role in website editing system. Researcher observed that website editing system is related with text extraction technology that helps to collect the visitor's information. A real time SEO factor analysis could be run automatically that helps to improve the productivity in SEO processing.

Tiago Ribeiro and José Luís Reis (2020) Researchers emphasize that many of our daily tasks are already be replaced by artificial intelligence and probably many of us may not be aware of this. Researcher examined that use of AI through machines with humans will provide better results. Researcher mentioned one of the major obstacle that humans are still not confident in technology and they are yet ready for this technological change. Hence researcher suggested that managers and companies should make themselves and their employees for implementation of artificial intelligence in marketing practices.

Satya Ramaswamy (2017) Researcher thrown a light on advantages as well as consequences of AI in industries. A survey by TCS reveals that though some jobs are lost by the introduction of artificial intelligence but still there is a great scope for employment if the companies using AI to improve computer to computer task while employing the people. In fact AI has given an opportunity to each segment of the business by grabbing the new techno-skills. From the findings it can be inferred that in marketing also there are tremendous opportunities but one must learn AI.

Amy Gallo (2014) Study reveals the value of retention of customers comparing to acquiring new customers. Study examined that acquiring new customers cost would be 25 times more than the retaining the existing customers. Study also showed that increase in retention rate by mere 5% increases profits by 25% to 95%. Here AI can play an important role as it will keep you informed with existing customers and their preferences.

Piyush Jain, Keshav Aggarwal (2020) Researcher have illustrated about the need of AI in marketing, drivers of AI in marketing through real world business cases. Study entailed different AI strategies that can be implemented in marketing. Sector wise and region wise role of AI has been entailed in the study. Customer life cycle stages and role of AI in each stage was explained by the author.

Inferences and Findings

AI and Personalised customer experience

AI helps to monitor their customer's behaviour and leverage their needs to enhance the buying process. From a survey done by quick sprout, it has been observed that customer's gives preferences to the online/offline stores that recognise their name, earlier purchases,

recommendations based on past purchases etc. Here AI can play a very important role that it will keep all the above said records, track the records, gives recommendations etc.

Consumers are more likely to buy from the retailor (Offline/online) that ....
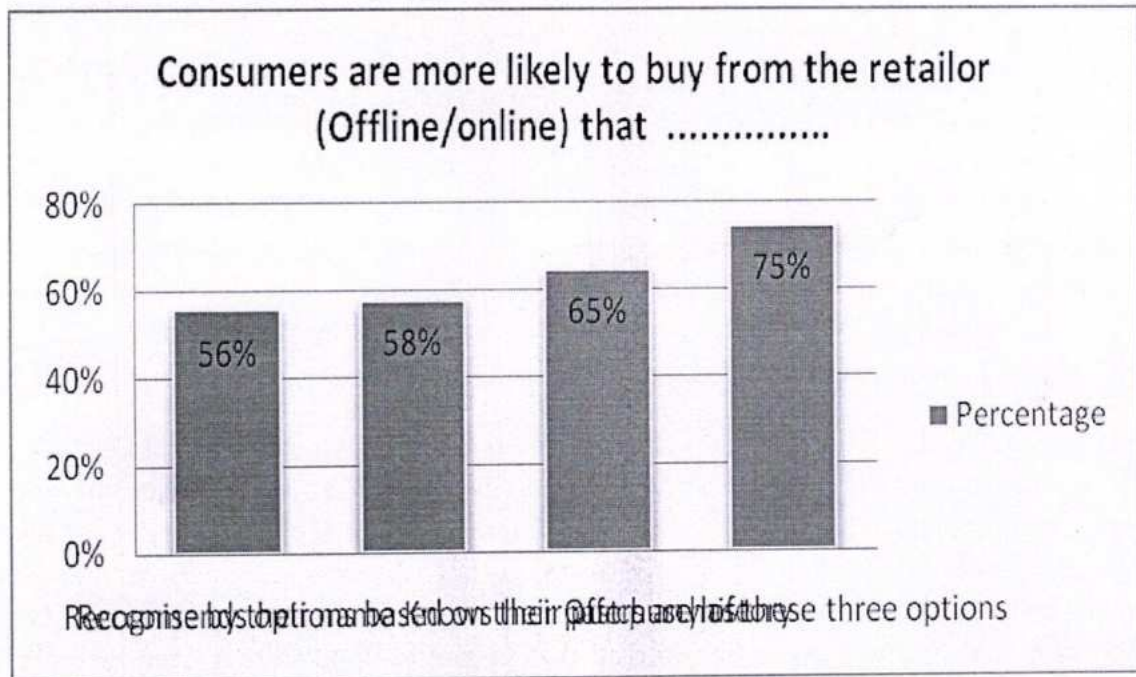
Source:-Quick sprout Survey 2018

Most effective digital marketing techniques according to marketers worldwide in 2020
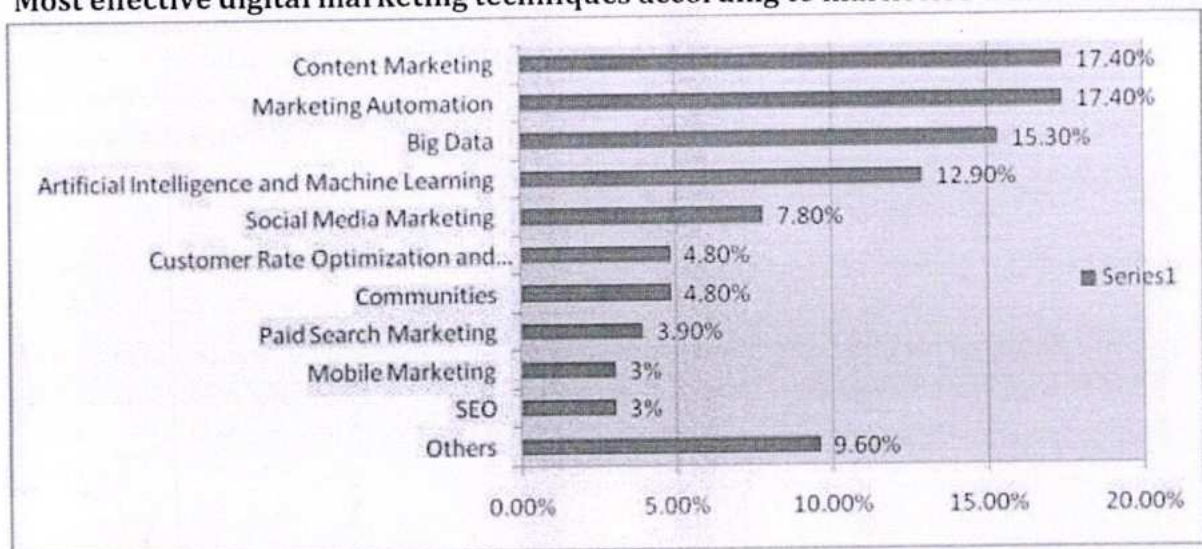
Source:-Worldwide; SmartInsights.com; January 2020; among marketers; Online survey AI Implementation strategies in Marketing

From the above extensive literature review it can be inferred that there are many ways to implement AI in Marketing.

Chat bots
Content
creation
Image Recognition
Email
Personalization
Product Pricing
Programmatic AD
Tracking Speech
Recognition

Chat bots: -Chat bots are used in messaging applications. It helps the customers by providing convenience. They engage the customers by interacting like human would and cost very less. This is an automated program that stimulates the customers to interact with machines. This communication could be verbal or written and found very effective and time saving.

Content Creation:-Here content is created by a machine for a human being. The days are gone when marketing executives spends hour and days to send the emails to their customers. Emergence of AI, email content creation task is carried out by machines that too in less manual efforts. AI maps the customers email browsing data, website experiences and it creates the dynamic content of emails. Even today AI content creation is used in writing posts in blogs, articles in magazines, creating videos and audios etc.

Image Recognition:-AI powered machines can act like humans and hence it can see just like we human and interpret the objects. This machine vision can be used to interpreting and understanding the images. Google lens could be the best example of image recognition and it helps in marketing especially in retailing business to suggest the best results based on their interest and surfing behavior.

Email Personalization: -This is used in marketing where one can use personal information of subscribers to delivers more targeted emails. These are automated emails generated by machines powered by AI. Customer's feels like they are considered individually and getting the individual treatment. Research proven that individual or personalized emails results in increase in revenue and profit. Dynamic content, Personalized content, browsing history, anniversaries are used in email personalization.

Product Pricing:-AI got the power to make dynamic pricing easier and better. Through AI machines can collects the demand and sales data, analyze and produce the results in few minutes and helps to optimize the sales by giving dynamic price when the demand is high. These applications are mostly used by OLA, UBER, IRCTS train booking etc.

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Programmatic AD Tracking:-It is an online advertisement that enables automated buying and selling process. This method enables marketer to target the segmented audiences to advertise the product or service to the right people at right time. Here advertisers charge the marketers for the particular advertisements. AI uses the algorithms that help the marketers to analyse the customer behavior and accordingly targeted customers are advertised with the campaign.

Speech Recognition:-AI bought the innovation through interpreting human voice. It recognizes the human voice and interprets them. Apple's SIRI and Google's Alexa are the best example of speech recognition in artificial intelligence.

Conclusion

There is no doubt that the future is all about to provide greater customer experience to sustain in the stiff competition. In the fourth industry revolution artificial intelligence will be the key to success. AI got this imperative because of its power driven by the data it collects, analyze and produce the results instantly. It helps the marketer to understand their customers, their needs, and changing preferences, purchase behavior etc. Here Artificial intelligence plays an crucial role to anticipate the demand, customer choices and guided experiences to match the customer expectations. Through this research an attempt has been made to understand the concept of AI, its role in marketing and predictive analysis.

From the literature review and critical analysis of various reports it can be conclude that AI is a technological disruptor and it holds massive potential in various industries like automobile, pharmaceutical, agriculture, digital marketing etc.

Future Research

It was a qualitative study conducted on the basis of literature review. In the future research scholars can conduct the quantitative research through using survey based data or any other method. In next one decade we can see the dramatic change in marketing practices driven by artificial intelligence. As well as same change can be observed in customer behavior. Hence consistent efforts in the field of marketing research are expected by the scholars.

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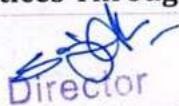
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Abstract:

Aim: For researcher, practitioner, and brand strategist, this research article- Hook your customer in digital space is the absolute comprehension of branding strategy, exhibits in one B3 Framework of Aspirational Branding, which is the guarantee card of growth and profitability, in the world of No-Guarantee'. The proposed B3 Framework is a complete, succinct, and precise template for Aspirational brand, characterized with a striking balance of distinctiveness and Centrality, from the lenses of four Ds, which are the four faces of the B3 Framework namely, Deliverables, Distinctiveness, Discover, and Desirability. The very characteristics of this proposed framework is its Generic application in both physical as well as digital space. The essence of this Proposed B3 framework is the alignment of Brand DNA with Brand Voice to build Brand Trust.

Methodology: The present study is the result of an intense systematic literature view, analyses of the cases of successful brands with special reference to their digital space presence.

Keywords: Aspirational Branding, digital space, Customer Engagement, Brand D NA &Brand Trust.

1. Introduction

The tone of this research article is 'Getting tagged as an Aspirational brand through 'B3 Framework in digital space.'

Statistically, 3.8 million-plus people using digital space which covers half the world's population. The firm should tap this opportunity to scale the new heights of the business. So Mantra is being present where the customer already is—Go Digital. To connect and engage your customer, be 24X7 visible at a click.

This research article answers how might we help firms to establish their brand trust in the digital space? Establishing Brand Trust is all about creating 'WOW' Digital Customer Engagement which gets conversion in compelling Digital Customer Experience. Brand Trust stimulates at every touchpoint across the customer journey. Remember branding

through Omni-channel which is a seamless integration of digital touch points that enhances Digital Customer Engagement and Experiences. Omni –Channel is where all disparate interfaces, be it website, mobile site, app, branch, phones, etc., are all stylistically aligned, offer the same capabilities, and are integrated.

Omni-channel is achieved through the application of an augmented layer, which works to integrate all existing digital customer touchpoints that make up the front-end and connect them to all existing backend interfaces such as CRM and BI databases. In this context, of Customized Customer Journey from awareness to call for action for Product /Services all the digital touch points; on a website, Facebook page, app, Instagram branch office, retail location, Twitter feed or call center where Customer exists– must be optimized. The customer mind creates synapses where data, channels, and strategy intersect and provides 'WOW' Digital Customer Experiences. Firms should frame their growth strategy around Digital Customer Engagement with the focal point of relational connection and interact with the customer by accounting for their rational and emotional aspects. In the era of Information overflowed and noise of brand crowd it is challenging to grab the attention of the customer in digital space and here the role of User Experience Architect emerges. "Leaders, businesses, and communities will still leverage technology to gain an advantage, but those that put human connection at the center of everything they do-and how they do it-will be the enduring winners". - Thomas Friedman in the NY Times

User Experience Architect (UX) can help the firm to decipher and analyses their Customer by integrating behavioral economics discipline and positively reinforce high-level loyalty and trust of Customer on brand. This Creates a Compelling Customer Experience, which makes them Choice Architect, without reducing the available choices. The firm should ensure relevancy in terms of Brand Me, it should not be 'too much' at the customer perception and succinctness in terms of the time- factor and wide availability of the choices while interacting with its Potential Customer.

Engineering Brand trust is nothing, but to do Aspirational Branding. Aspirational brand strategy is concerned with creating the dream and generating positive emotional reactions from consumers (Malär et al., 2011). Aspirational Brand Strategy is strategy that tries to fit a product/ service into consumers' attitudes and emotions so they will identify with the product/service as it appeals customers aspiration rather than realities in all the way Psychologically, Socially and Economically.

The brand must voice on digital space with purpose, frequency and diversity to create an emotional connect with the customer by hooking them with Values, Consistency, and Commitment to become an Aspirational Brand with its signature feature distinctiveness and centrality. Firms get confused with two contradictory goals of a brand -building------

Centrality and distinctiveness; however, the key is striking the right balance between these goals and engineered Brand DNA.

A new tool introduced by (Dawar and Bagga , 2015), based on scoring brands on their centrality (i.e. the brand of record) and distinctiveness (i.e. the brand that stands out from the crowd) can help marketers and strategists determine the best paths for growth and profitability. It analyzes both brand positioning and business performance. Aspirational Brands enjoys both high sales volume and premium tag due to its high regards, which makes it the most profitable brand.

Purpose: In this research article, the researcher conceptualized and designed B3 Framework for Aspirational Branding in the digital space. This Framework can act as a blueprint for business leaders to establish brand trust in digital Space.

2. Objectives

1) To help the brand connect, converse, decipher, and analyze.

2) To prescribe strategies for achieving balance in distinctiveness and Centrality

3) To help Firms aligning their Brand Voice with their Brand DNA to realize their Brand Value.

3. Conceptual Framework

The B3 Framework is structured on Brand Metrics i.e. Brand Equity, Brand Voice, and Brand Value proposition, with two-dimensional goals i.e. Distinctiveness and Centrality through the lenses of Deliverables, Distinctiveness, Discovery, and Desirability.

This Framework has three focal points as follows:

1) Brand equity from a two-dimensional perspective: Customer Perspective and Financial Perspective. The components of Customer perspective brand equity are Brand Identity, Brand Image, and Brand Positioning. So the winning strategy is the Congruence of these three Bs of Brand (Brand Identity, Brand Image, and Brand Positioning). The Components of Financial Perspectives are Market Share, Growth, and profitability, the strategy is to take these components as a yardstick to make brand assessment and strategies with the required interventions to achieve the brand objective.

2) Brand Voice: To create a digital customer engagement brand harness the trends. Brand to be relevant should make use of big data to get real-time customer insights. The brand should make use of IoT to forge their DNA characteristics for the customer to connect with. With Augmented Reality, a brand can augment Customer engagement and experience by offering 'Try before you buy' experiences. Besides

Chat-bots Voice assistant automated processes revolutionized Customer engagement.

3) The focus must be on realizing to the customer that your Brand Value is worth it and the winning strategy is four Ds i.e. how the brand gets discovered, distinctiveness, and desirability concerning its deliverables.

4. Methodology

The researcher deployed design-thinking-based research methodology (Sharma and Khurape, 2020), to conceptualize and designed the B3 framework prototype, also, to validate this conceptual framework action-based research methodology adopted by case analysis method. Brand Audit to find out the gap in terms of deliverables, discovery, distinctiveness, and desirability.

Researcher Prescription:

B³ Framework of Aspirational Brand
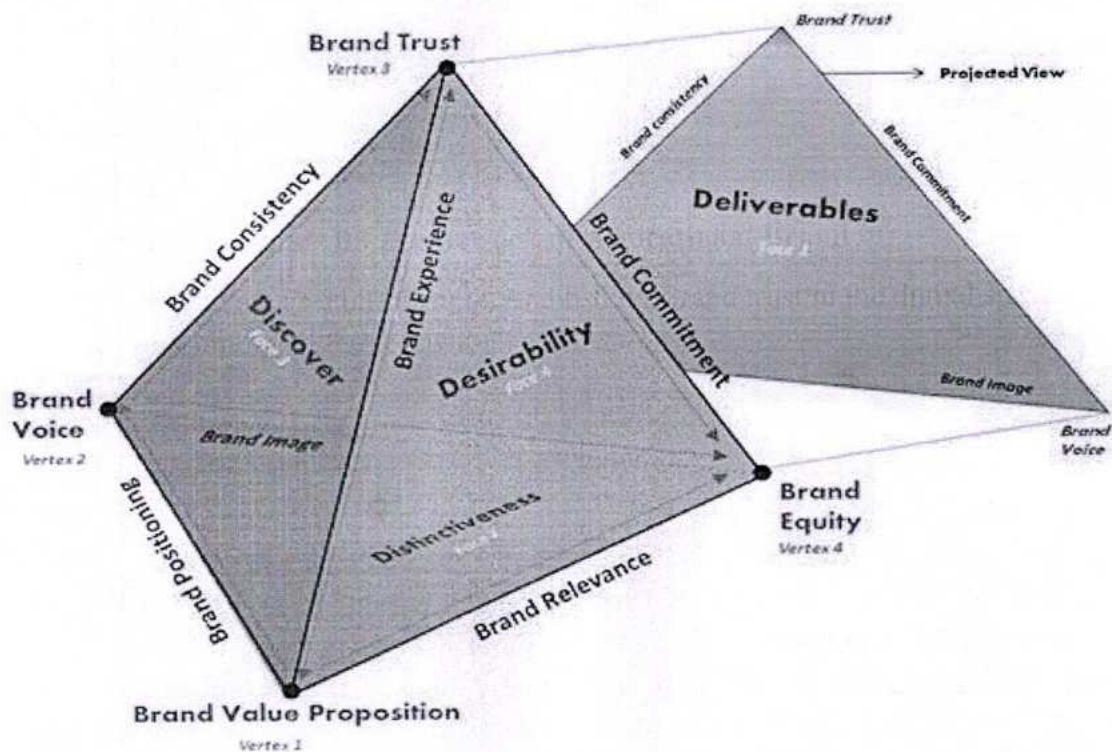
A tetrahedron Pyramid- B3 Framework of Aspirational Brand

B3 framework can act as a blueprint in establishing Brand trust in the digital space. It is a tetrahedron pyramid with the following specifications.

Sr. No	Specifications	Numbers	Facets
1.	Faces	4	1. Deliverables 2. Distinctiveness 3. Discover 4. Desirability
2.	Vertex	4	1. Brand Value Proposition 2. Brand Voice 3. Brand Trust 4. Brand Equity
3.	Edges	6	1. Brand Experience 2. Brand Relevance 3. Brand Positioning 4. Brand Image 5. Brand consistency 6. Brand Commitment

The flow goes like this:

➤ **Brand Experience**- The success factor of 'Google' is their people behavior online analytics. The purpose of developing a brand and earning trust is prefixed with customer insights only. The tools like Customer journey maps should be deployed to explore their pain points and identify trigger points to develop tipping points. This creates a deep understanding of customers' needs, requirements, and behavior which facilitates strong connections and inspire customer towards desired results.

> **Brand Relevance-** Customer insights help the brand to become relevant for their targeted customer segment. Relevant Brand engages and connect customer as an integral part of their lives, by engaging customer senses in all the way and achieve centrality in their mind. These also make the brand agile with customer changing demand and push them for re-invent to be more and more relevant.

> **Brand Value Proposition-** Brand Value Proposition tells why people pay for your products/services over others. The three-element i.e. Brand, Customer Experience and Products/services collide to give the value proposition understanding, which could be the offer of the brand.

> **Brand Positioning-** Brand Positioning is the acquisition of a distinctive place in the audience/customers' minds. This provides reasoning to prefer the brand over competitors'. Four elements lead to an appealing brand positioning statement: 1) Target customer 2) Category of product and its relevancy 3) End benefit customer will get with emotional connects. 4) Reason to believe in the brand.

> **Brand Voice-** To be recognized in this overcrowded digital space, it is necessary to be visible, vocal with a defined tone, coherent, and uniform on all Omni channels about -Who you are? What kind of personality brand has? What is your offering? How you are different from your competitors, which matters to your customer.

> **Brand Image-** Positive Brand image has enormous advantages. Brand image is a belief, opinion, perception of the customer about the brand which develops its reputation and ultimately facilitates positive brand equity (Joseph et al., 2017).

> **Brand Consistency & Commitment –** Ensures Consistency offline and online both about messaging, design, visuals, deliverables, perspective, and delivering experiences, this exhibits brand commitment and results in brand trust, which ultimately guarantees customer loyalty and customer retention up to great extent.

> **Brand Equity-** Brand Equity is a derivative of Brand trust. All C- suite Leaders strive hard for this ultimate desirable result. In today's digitally connected world, it is imperative to engage customers, manage, and measure customer engagement value. A recent Gallup research study shows that engaged customers offer a 23% premium in terms of share of wallet, profitability, revenue, and relationship growth over the average customer across retail, consumer electronics, and hospitality industries (Pansari and Kuma, 2017)

5. Brand Value Proposition

This section of the research article answer –for what and why customer pays to the company over others, which becomes core elements of the brand equity. Brand value

proposition comprises value creation, value delivery, and value capture, which ultimately are the core components of the sustainable business canvas framework (Hassan, 2012)

To design a value proposition followings must be kept in mind-

- Which customer segments, the company wants to cater to?

- What value does the company want to deliver?

- Which job does the customer want to get done?

- Which pain of the customer, company relives through its product/service?

- Which need of the customer, company satisfies?

- How brand differentiate with the difference which matters to the customer positively?

In nutshell, Value proposition expresses the gains/benefits customers can expect from the company's products and service, and how it can help them to relieve their pain points and generate short and long-term gains.

In this noisy digital space, becomes a memorable brand that stands the test of time, the brand has an outside-in, a human-centered approach to build relevant and valued experiences to your customers' needs timely.

The facets of brand value like value Creation, value delivery, and Value capture should be analyzed through Customer Experience lenses, to create enduring Brand value that holds Brand trust.

Value Creation: Brand value creation is all about creating and managing 'Customer Experiences', building meaningful, emotional, and personalized 'Relationships', and accelerating 'Innovation based Evolution' to support business sustainability.

Thus, to create and manage a delightful customer experience, the company should plot a Customer Journey Map (Rosenbaum et al., October 2016) particularly digital space/channels experience. It provides customers' insights about their pain points, needs, requirements relevancy, etc. which helps to identify, which points of interaction add to the experience and which detract. To enhance the customer experience in the digital space, the customer journey in the digital space needs to be reviewed regularly on-going basis.

Day–by–day, Customers' demand for digital platforms increases as digital technologies empower them to make better decisions and situational experiences to buy what the company offers, this signals Company to use digital technologies to enhance customer interactions and experiences.

A relationship with the customer is at the core of brand trust and brand loyalty. The

challenge is, strengthening this relationship, due to the crowded business landscape, frequent choice changes of products and services, particularly in digital channels. The customers are skeptical about their data security. Thus, to provide data protection assurance and build more value-adding relationships, the company must provide freedom to the customer about what to share and use to have relevant relationships and induced trust and transparency.

In today's era of innovation-led business and constantly reshaping the digital environment, brands need to evolve continuously to sustain and accelerate digital value creation, data-driven review of trends, and understanding of competitive scenarios paving the way to evolve and embrace change with innovation.

Value Delivery: Business is a value delivery system - Credit for this insight goes to Mc Kinsey. Value delivery in terms of functionality efficiency, less cost to the customer and relevant need satisfaction holds existing customer and insert new customer in the value chain of the brand.

Consistent and effective delivery of the brand value, which the company offers brings superior Brand equity and high financial returns. This also highlights brand among jumping flamingo on digital space with 'distinctiveness'.

For larger space acquisition in the digital channel, Customer Experience (CX) has to leverage to create uniqueness and relatable relevancy (Haije, August, 2020).

Value Capture: A sustainable business exhibits ability to capture some of the value is created. Creating value is crucial nevertheless Capturing value to have a strong command of brand equity.

The brand can take the test of value capture with this challenge- Can the brand hike the prices of its offering without losing a customer?

Reflections: Analysis of the Google Value Proposition (Belmejdoub, Jan 2016), mapping with customer segments.

Google Customer Segment	Google Value Proposition
The **web surfer** who can organize information in useful ways using Google products and services	Providing a free platform to search the internet, Google gains access to invaluable data about almost everyone.
The **webmasters**, who have websites	Enabling them to monetize their content and earn money from content.
The **bloggers** and **content publishers**	Through content monetization service known as "Ad Sense" help customer to earn

	money and create value for them.
The **Advertisers,** who wants to reach out customer faster, and indeed they are willing to pay for exchange value.	Through its Ad words, Google encourages, Companies, startups, small businesses, enterprises and individuals to advertise online and promote their services using Google ads, as Google has the largest online network

Insights: Brand must design a value proposition statement with crucial four elements:

- Relevancy: Communicate about how the brand's offering relives customer pain or satisfies their need/requirement.

- Quantified value: Deliver specific benefits/ gains

- Differentiation: Vocal about brand uniqueness over a competitor and convinced customer payoff.

- Digital Presence: Grab the right digital opportunities and embrace technology in the value chain.

In essence, if the industry is in competitive equilibrium, the death of the brand wouldn't matter to the world: some other undifferentiated competitor will always be ready to replace it. So, the key is offering must be unique and not substitutable.

Brand Voice

This section of the research article answers how the brand can voice in the digital space to hook the customer to build trust. Brand Voice is about discovering brand personality rather than developing it. To discover Brand personality, exploit Carl Jung's Archetype [9] concept and personified brand. Brand archetype aligns the brand with the desire within their customer in the most appeal way and provides a roadmap to set Voice, Tone, Strategy, Positioning of the brand in a way, which builds an enduring connection with the audience/customer (Moran, 2020), in addition, helps to make a differentiation strategy with infinite possibilities (Moran, 2020).
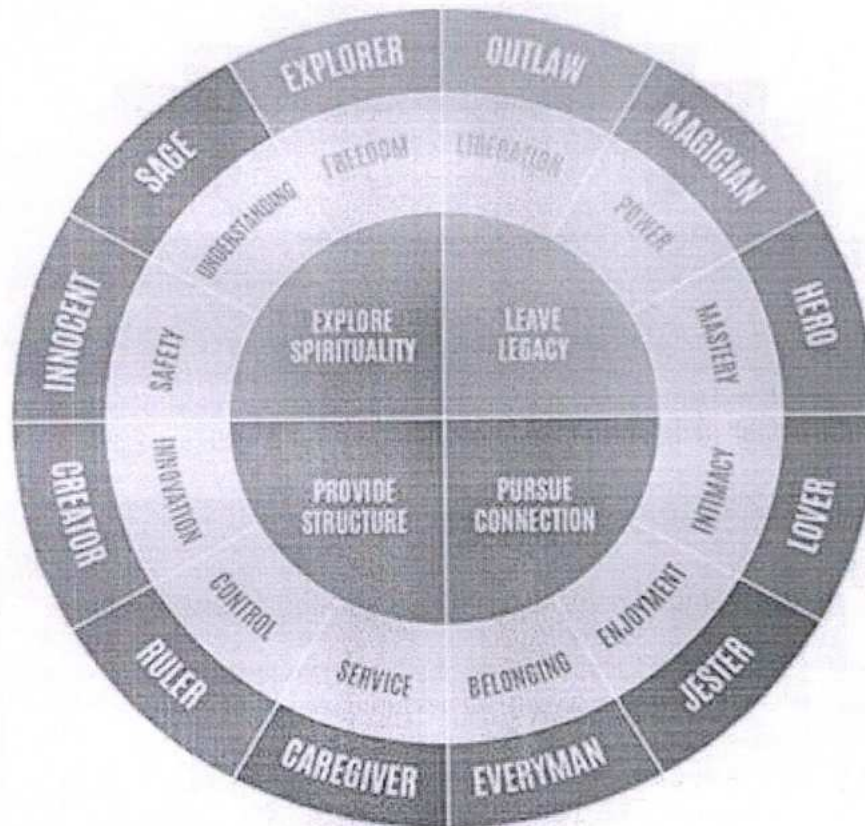
The 12 Jungian Archetypes

Reflections

❖ Google Archetype - The Sage, with the understanding that "the truth will set you free"

❖ Google Brand Voice - Knowledge. Assured, Guiding.

❖ Google Brand Message- 'Education is the path to wisdom and wisdom where the answer lies.'

❖ Google Brand Core Desire- to understand the world with the intent to share that understanding with others.

❖ Google Brand Personality- Google is an information, knowledge, truth, and wisdom seeker, not to keep with it but to share with the world.

❖ Google exhibits the personality of a life-long learner.

❖ Google Brand Strategy emphasis- On factual, authentic, and well- researched information, which is a hard nut for any challenges and shows the path to wisdom, to

celebrate life-long learning.

❖ Google Brand Drivers- Wisdom, Intelligence, Expertise, Influence, Innovation.

❖ Google Brand Threat Misinformation, Inaccuracy, Ignorance, Insanity, Powerlessness.

Don't Be Evil

This apt tagline personified, 'Google' well and creates an image.

Insights from the present study-

❖ Defined brand voice and tone to capture the audience (customer, employees, vendors, etc.,) in a way, to be heard, loud and clear in digital space.

❖ Speaks about everything companies do, their vision, mission, purpose value proposition, which exhibits the typical characteristics and adjective of the brand personality and brand image, to positioning the brand in the minds of the audiences in the digital space.

❖ A very vital aspect of brand voice is to maintain consistency in the tone of their brand voice, delivery, social media pages/platforms, or any products/ services through listening and engaging customers on social media platforms and all digital spaces.

❖ Leverage employee advocacy platform tools to elevate brand visibility and reach in the digital space.

❖ Brand Personification is the key, with the very element of 'Emotions'. Audiences either resonate or aspire to the brand personality, which is backed by the value proposition and customer experiences that brings Brand equity.

Brand Equity

Brand equity is the value, brands bring to the companies.

Brand Equity is the resultant of a distinct and relevant value proposition, which must be communicated uniformly through all Omni-channel including digital channels to customers to showcase the brand image.

The total value of the brand is the aggregate of assets and liabilities associated with the brand name and symbol, which brings interaction and relationships with the customer. Reflection of brand equity is due to the brand image, so accordingly it could be positive or negative, and recorded in financial books in terms of profitability, price, demand, and

shares. To make a favorable market impact and realize the positive brand equity, ensure that customers must aware of the brand, identify the brand, and at-last, associate it with a specific product, class, or need. This helps to analyze the consumer's situational buying pattern (Deshpande and Keinan, 2014).

Brand Equity is the reputation of the brand. To build positive reputation consistency, the commitment of deliverables is at its core. It brings significant value to companies, in terms of the premium price for the products /services, customer loyalty, big market share due to the insertion of a new customer as recognized and preferred by the customer, driving sales and growth.

Further, brand equity can be classified as financial brand equity and Marketing brand equity. Brand equity is the value augmentation to the brand, due to its name. The financial brand equity is the quantified value placed on a brand on the balance sheet to make investment decision (Anderson, 2011), as the value resides in the brand name, and the marketing equity is the value added to a brand due to its name as endorsed by consumer loyalty, willingness to buy along with exceptional price, whereas, resist to the competitive marketing (July Wheeler, 2011).

24/7 digital connections compel the brand to be prominent and positioned as a relevant, trustworthy, consistent solution provider for the customer on all digital channels –social media, online forums, blogs, news sites, search engines, etc.

Brand equity is a derivative of the brand perception and perception build with the brand experience. Thus, to shape positive perception, customer insights, feelings, belief opinions about the brand is crucial. The Customer-Based Brand Equity (CBBE) Model, developed by (Keller and Kevin, 2016), has been widely used.

Reflections: Google's Brand Equity in the CBBE Model

Customer feelings, perception, belief, opinion, positive experience exhibits in Kevin Keller's brand equity model. The below figure highlights how Google has exploited its basket of products to build its overall brand equity for specific customer segments. **Kevin**
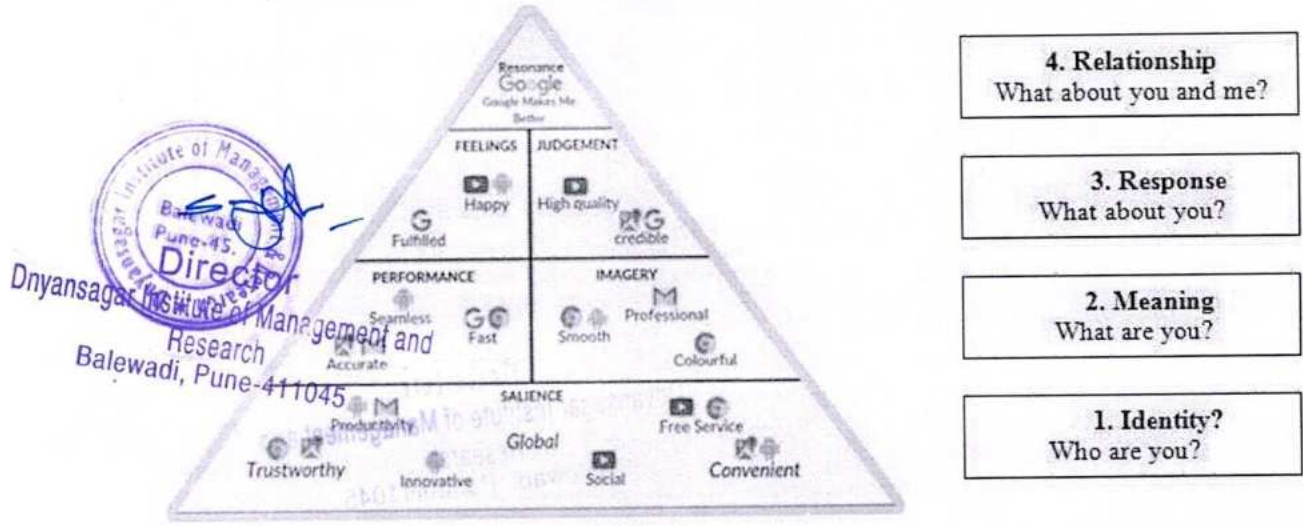
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Exhibits: Brand Fitness Diagnostic Tool

Please review the questions below and mark an "x" in the most appropriate part of the spectrum to help self-assess your brand's fitness and where there are gaps.

1. Deliverables: XX / 60

Do you know who you are and what are your offerings?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Have you identified your Brand Archetype?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Have you identified the requirements / needs of your customers?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Do you use data analytics on customers' insights to design your branding strategy?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your brand deliverable relevance to your customer expectations?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your target customer show a strong sense of awareness of your brand?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

2. Distinctiveness: XX/70

Do you clear about your brand value proposition?

	0	1	2	3	4	5	6	7	8	9	10	

Keller's brand equity model

Insights: To have a distinctive position in the minds of the customer/ audiences, a brand must communicate effectively with the intent to create a positive brand image that engenders customer trust and loyalty, results in value for the companies in terms of Brand Equity. To evaluate the impact of the brand, it is necessary to track return on Investment. Brand Equity metrics that need to be tracked are:

Financial metrics: Companies should extrapolate data and do analytics about market share, profitability, revenue, price growth rate, cost to existing customer retention cost to insert new customer to decide on growth marketing investment.

Strength metrics: Companies should track the agility, awareness recognition, and brand image to ensure customer loyalty and retention, as one of the dimensions of business longevity.

Customer metrics: It's the customer, who decides upon brand equity based on perception and brand experience. Thus, the brand should track customer sentiments, buying behavior, brand relevance, social media expressions to strengthen the brand value proposition, which ensures strong positive brand equity. Customer engagement value is also very crucial metrics to measure brand equity.

6. Research implications

- Begin with brand fitness check-up to discover the gap and identify a specific problem area in the brand development process (Brand Fitness Diagnostic Tool is given below as exhibit)

- Diagnose and provide solutions to the organization by the usage of the B^3 framework in their brand trust development process

- B3 framework is the tool for achieving balance in distinctiveness and centrality with its tetrahedron pyramid characteristics and properties.

7. Closing remarks

Researchers have conceptualized this very effective B^3 framework of Aspirational brand with the intent to solidify the brand. The researcher conceptualized this framework by taking a strong base of their literature review and analysis of the existing successful brand, besides, quoted 'Google' as an example of their analysis.

8. Conclusions

Brand Trust's Driver is homophily digital customer engagement which generates on the alignment of brand values with those of your customer aspirations. . Aspirational branding

designed shopping as a signature behavior of the Customer. Firms need to knit their Brand DNA strands with the helix of distinctiveness and centrality, by adopting the B^3 framework of the aspirational brand.

9. Future Scope

The researcher appeals to a brand strategist to adapt and adopt this B^3 framework on reality checks for budding brands.

10. Result Interpretation

With the help of this brand fitness check, self-assessment tool organizations can discover gaps and diagnose challenges in their aspiring brand development. The score highlights the specific problem area that needs to be the focus.

< 20% - **VERY LOW** - Urgent attention is needed, start with quick fixes as you need to move fast.

20-40% - LOW - Attention is needed to drastically improve, start with low rating categories.

40-60% - AVERAGE - Carefully notes the weakest areas and improves on these.

60-80% - HIGH - Look for incremental improvements in each category.

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Not really												Absolutely

Do you analyze your market position?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Have you identified your distinctiveness with respect to your competitor?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Are you clear about the kind of brand personality you want to project?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Do you have clarity about your brand propositions (Vision, Mission, Values etc.)

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Do your team/employees are on the same page about your brand proposition and religiously practice?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Are you clear about your brand positioning, you wanted to create in your targeted customer's mind?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

3. Discover: XX/50

Do you have brand coherency across all Omni Channel in terms of visuals (e.g. Brand Identity, Guidelines, Marketing Templates, Website, Imagery, and Video etc.), theme/ taglines and brand tone ?

	0	1	2	3	4	5	6	7	8	9	10	

Not really												Absolutely

Do you have identified risk and chalk-out mitigation plan of it with respect to brand reputation?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Do your organizations build a brand around customer experience and insights?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your brand active on social media platform and do write blog posts, record podcasts, host webinars, give talks to raise the awareness and improve market share?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your brand search result show positive content on Page 1 of the Search engine Google?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

4. Desirability: XX/ 90

Does your brand offer solutions to the customer, for which they are willing to pay off?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Is your brand tagged the title 'Difficult to Copy' by your competitors?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Could your brand easily and quickly scale up national as well as international?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your brand enjoy referrals from the current customer based on goodwill only?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Can you enjoy the premium prices of your products/services without losing a current customer?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your organization understand the key market dynamics?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your brand enjoy repetitively purchasing?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your brand achieved an exponential growth rate by >20% year-on-year for at least 3 years in a row?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Does your brand have recognized positively in the international market, presence in >1 country around the world?

	0	1	2	3	4	5	6	7	8	9	10	
Not really												Absolutely

Please total up your score and give yourself a mark out of 270.
Total Score?/ 270

Recent Trends In Green HRM Practices And Its Impact On Environmental Sustainability

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Abstract

The implementation of green Human Resource Management (HRM) practices has been a key concern for organizations looking to reduce their environmental footprint. This paper examines how recent trends in HRM practices can help advance environmental sustainability at the organization level. Drawing upon a review of the relevant literature, this paper highlights key areas where improvements in HRM practices have significant benefits for the environment and provides recommendations for strategic action. Conducting a survey of 98 employees of HR Departments in 15 leading IT organizations in Pune City, the paper examines how the development of effective HRM practices and organizational culture can improve employee job satisfaction, which decreases turnover and thereby reducing the costs involved with hiring new staff. The paper concludes with a discussion regarding how these findings can be applied to improve the environmental sustainability of IT firms in Pune City and elsewhere.

Keywords: Green HRM, Environmental Sustainability, Social Responsibility.

Introduction

Human Resources (HR) is often defined as an organization's most vital asset. Human resource management (HRM) is the process of implementing organizations' human resources policies to achieve their objectives and meeting the needs of their employees. The purpose of this paper is to focus on the ability of organizations to achieve greater business performance, enhanced employee job satisfaction and standards for conducting business, with some attention paid on how these gains can be achieved by developing effective HRM practices.

What are green Human Resource Management (HRM) practices?

Green HRM practices are, by definition, idealistic; however, all organizations face practical challenges in implementing them. Measuring the impact of green HRM practices on a firm's bottom line is challenging since most of these benefits are indirect or intangible and cannot always be quantified or monetized. For instance, an organization's reputation may increase due to its environmental performance so that it attracts more

business or gains an advantage over competitors to gain new customers but these increases are difficult to measure and quantify financially.

Human resources are divided into three major function which are: recruiting and hiring, employee relations (employee relations), and training and development. In this paper we focus on green HRM practices that address human resource issues at the organizational level. We are not dealing with green corporate social responsibility (CSR) practices within the organization but with HRM practices that support organizational objectives by providing a framework for dealing with environmental issues through education and training, and other environmental friendly actions. Organizations should recognize that green HRM practices are not a means for optimizing revenue and profit but rather an essential part of the process by which organizations develop an environmental strategy to meet the needs of its employees and clients.

Green HRM is defined as those activities that help organizations reduce their environmental impact or increase their positive social impact on communities. It encompasses steps taken at various levels for the purpose of improving overall resource efficiency, increasing energy efficiency in operations, minimizing energy consumption and minimizing waste generation. Environmental Sustainability embraces those innovative concepts that promote the preservation of existing natural resources while ensuring sustainability within the context of society by enhancing economic performance, socially beneficial activities, community enhance and well-being with minimal adverse impacts on environment and people.

Green HRM is a unique concept that is neither targeted at only the environment nor solely defined by reduction of resource consumption. Rather, green HRM practices aim at making an organization's operations more efficient and innovative, which results in more sustainable business models and profitable growth. Green HRM Practices are designed to address existing and emerging environmental sustainability issues. There has been a recent trend towards the expansion of green HRM into other areas such as employee responsibility towards community, social responsibility and corporate governance that provide an opportunity to consider newer environmental factors while evaluating the effectiveness of existing green HRM practices.

Green HRM requires an active involvement from all employees so that they may understand how their actions impact the environment and be encouraged to contribute positively. The support of senior management is required to introduce incentives and rewards for staff who seek to improve how their work impacts the environment. In this paper we provide a brief overview of existing green HRM practices that are either in place or coming into existence in the current business landscape. This review has been limited by financial constraints and not the scope of this report. The focus has been on IT organizations due to their large footprint and international operations.

Review of Literature

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The earliest works on green HRM practices were the publications of Albelli and Vaara from 1995 and 1996 respectively. These reports focused on the subject of CSR and discussed the importance of its integration in HRM policies within organizations. Since then, most early research has focused on environmental management as a separate HR function with some consideration given to how environmental considerations might affect other aspects of HRM such as recruitment and training.

These papers have supported the idea that companies can be more profitable by implementing green HRM practices, which are essential for reducing costs, increasing productivity and improving customer relations. They have also highlighted that organizations which are perceived to be environmentally friendly enjoy greater positives in terms of social responsibility and employee performance.

Kale &Bogum (2016) reviewed the current literature on green HRM. Their conclusions were that there is no single model of green HRM but many models exist and individual research studies have evaluated different aspects of green HRM practices. They found that many of these studies have used self-reported data and were unable to link any actual improvements in performance or financial returns to their implementation.

Kapoor (2019) has provided a comprehensive review of the literature on green HRM practices and has highlighted the various studies which have been conducted and provide a useful comparative analysis. These studies have greatly expanded our knowledge on this topic by looking at all aspects of green HRM, as well as its implementation in different countries. The author concluded that there is significant evidence to show that applying green HRM practices can lead to substantial improvements in organizational performance, both financially and environmentally.

Chatterjee (2018) reviewed the literature on environmental sustainability issues for IT companies. He reviewed the existing literature on IT companies, explored the major issues in this sector and outlined the strategies to improve organizational performance. The author highlighted that many of these practices are based on an assessment of current conditions without assessing future needs and how this may affect future performance.

The major focus of modern green HRM is on Green IT. Green IT is defined as those technologies, processes and values that are used to build a sustainable ecosystem. It aims at reducing the environmental impacts and increasing the positive social impact of an organization's activities by employing best practices in technology, process and information management while also managing its workforce. The concept of Green IT is closely linked to the idea of a more efficient use and more ethical use of existing resources.

The concept's development was influenced strongly by the exponential growth trend of IT systems in organizations. This growth resulted in an ever-increasing demand for energy, which led to ever-greater environmental impacts. International IT companies such as IBM, Microsoft and Cisco commissioned researchers to look into the environmental impact of their products and operations. These studies confirmed that

most software products involved in this industry had a very high ecological footprint with server farms being particularly energy inefficient.

Moosa (2019) has discussed the importance of applying green HRM policies and practices in IT organizations to ensure that these organizations operate more efficiently and provide a better service to their customers. She has highlighted that there are significant opportunities for IT organizations to increase their profits and improve customer relations by reducing the demand for energy and other resources, as well as increasing employee productivity and job satisfaction.

In support of this, Dias & D'Souza (2015) have reviewed the early work in green HRM for IT firms. They identified a range of existing practices used by companies such as process re-engineering, workforce skill development, training employees on environmental issues, use of information technology and application of green management systems (GMS).

In contrast to other industries, the implementation of green HRM in IT organizations is more challenging because of the nature of their work process and the use of sophisticated technologies. This is why there has been a need for IT organizations to develop their own models for managing environmental impacts, especially those associated with their operations and products. Green HRM policies have also been widely implemented in Australia's state public sector agencies and at the federal level, including the Australian Public Service (APS).

Green HRM policies are imposed by governments on all their public sector agencies, including state and federal departments, programs and agencies. The policy framework is designed to ensure the adoption of green practices in their day-to-day operations, how they manage information and other support services they provide to their customers in addition to how they use energy resources and safeguard the environment.

Soman &Tambe (2021) have explored the green HRM policies and practices that are used by organizations in Australia and compared them with similar policies adopted in India. They have highlighted that there are many similarities between green HRM practices used by public sector agencies in both countries. However, there are also some key differences due to their different legal systems, social and cultural contexts, and levels of economic development.

Among all forms of technology, Information Technology (IT) has been a major enabler of green HRM practices by providing tools such as online portals to promote transparency across the organization and accountability for actions taken. We have already identified that IT is being widely used to support environmental management activities in organizations. It has also become a key tool for green staff recruitment and selection, as well as for providing more efficient training to support and improve employee skills. It is now widely accepted that there is an urgent need for all organizations to develop and implement green HRM practices. Green HRM practices can also lead to significant improvements in organizational performance, both financially and environmentally. This

will require a major change in how organizations manage their HR functions and the behavior of their people.

To help facilitate this important change, a range of tools have been developed by researchers to support the implementation of green HRM practices. These include online portals to promote transparency across the organization and accountability for actions taken, as well as self-assessment tools for implementing green HRM practices at the individual, work group and organizational level. Such tools provide a good foundation for green HRM practices in organizations.

Sheshadri (2019) has discussed the development of these tools and their role in supporting the implementation of green HRM practices in organizations.

The tools available to support green HRM practices vary, but they all provide valuable information on the performance of an organization, including its processes and systems, financials, human resources and external factors such as energy consumption. Most tools also allow an assessment of how the different areas or processes are performing against a set of performance indicators that can then be directed by management to improve performance in order to meet legislative and customer expectations.

Overall there is paucity of research on the use of these tools and the benefits they can bring to organizations. So far most of the research done on these tools has focused on their role in developing green HRM practices rather than their effectiveness in achieving performance improvements and delivering cost savings. In addition to offering a new approach to managing organizational performance, green HRM provides a framework for implementing environmental sustainability policies that aim to reduce the environmental impacts associated with products, services and operations throughout the life cycle of an organization. This means that green HRM is also highly relevant for sustainability practitioners who will be looking for tools that help them manage sustainability more effectively, both financially and environmentally. The current study contributes to this gap in the research literature by providing a detailed analysis of the available tools for managing sustainability.

Although green HRM is gaining greater prominence and interest in organizations, it can be confusing for people new to the topic to identify which tools would be most useful for them. At present it is not easy for readers and researchers to find out about the many tools that are available and how they can be used. This paper aims at providing information that will help readers identify some of the most helpful tools available in their organizations by separating these into two main categories: those that facilitate the implementation of green HRM practices and those that help them manage sustainability more effectively.

Objectives of the study

1. To identify the recent trends in HRM practices and its impact on the environmental sustainability

2. To quantify the positive impacts of green HRM practices on employee engagement

Hypotheses

H1: A positive relation exists between green HRM practices and environmental sustainability.

H2: A positive relation exists between employee engagement and green HRM practices. The study will be conducted using a quantitative research approach. Data will be collected through interaction with employees, managers and executives from the HR Departments in IT firms in Pune City. Questionnaires will be used to assess the participants' knowledge and attitudes about green HRM practices in their organisations. Statistical analysis such as correlation will then be used to analyse the data. The sample size consisted of 98 respondents. A convenience sampling method was utilized in combination with snowball sampling method.

Likert scales were used to record the responses of the respondents. Averages were calculated and employee engagement scale was used to find out how the workers were engaged to their jobs. Several green HRM practices were also included in the questionnaire.

Data Analysis

Table 1. Green HRM implementation

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Our organisation has developed comprehensive environmental management systems and policies to minimise our impact on the environment	0	0.0 %	0	0.0%	12	12.2 %	38	38.8 %	48	49.0 %

Our organisation provides adequate training for employees on green initiatives, sustainability and eco-friendly practice	6	6.1%	47	48.0%	33	33.7%	12	12.2%	0	0.0%
Our organisation promotes the use of energy efficient products and services in the work place	0	0.0%	0	0.0%	15	15.3%	44	44.9%	39	39.8%
Our organisation has implemented green HRM practices such as incentives for reducing energy consumption, waste and water	3	3.1%	26	26.5%	48	49.0%	21	21.4%	0	0.0%
Our organisation regularly evaluates environmental performance to ensure our commitments are met.	0	0.0%	0	0.0%	9	9.2%	38	38.8%	51	52.0%
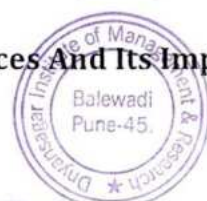
Statement										
Our organisation deploys systems to monitor air quality, noise and other environmental indicators.	0	0.0%	0	0.0%	18	18.4%	38	38.8%	42	42.9%
Employees in my organisation are well-informed about environmental sustainability	3	3.1%	34	34.7%	44	44.9%	17	17.3%	0	0.0%
Our organisation involves employees in green initiatives and activities	0	0.0%	0	0.0%	16	16.3%	39	39.8%	43	43.9%
I am motivated to come up with ideas that can help my organisation become more sustainable.	0	0.0%	0	0.0%	13	13.3%	35	35.7%	50	51.0%
Our organisation rewards employees for adopting eco-friendly practices at work.	2	2.0%	30	30.6%	40	40.8%	19	19.4%	7	7.1%

The management of our organisation is committed to reducing the environmental impact of its operations.	1	1.0%	5	5.1%	20	20.4%	33	33.7%	39	39.8%
Our organisation has a clear policy and strategy for environmental sustainability.	0	0.0%	0	0.0%	17	17.3%	37	37.8%	44	44.9%
Our organisation has developed procedures to identify, assess and manage environmental risks associated with our operations.	0	0.0%	12	12.2%	22	22.4%	31	31.6%	33	33.7%
Our organisation promotes the knowledge sharing of green practices among its employees.	3	3.1%	25	25.5%	34	34.7%	23	23.5%	13	13.3%

I am aware of the importance of reducing my own personal consumption and waste in order to reduce the environmental impact of my organisation.	0	0.0%	0	0.0%	19	19.4%	39	39.8%	40	40.8%

49% of the respondents strongly agreed and 38.8% agreed that their organization has developed comprehensive management systems and policies to minimise their impact on the environment. 12.2% of the respondents had a neutral opinion on this topic.

The results indicate that the majority of the respondents believe their organisations are aware of the importance of reducing their impact on the environment, and have put measures in place to ensure it. This is an important indicator for businesses as it indicates that they are taking steps to reduce their environmental impact and be more sustainable.

It is also worth noting that 12.2% of the respondents had a neutral opinion on this topic, indicating that more could be done to ensure environmental sustainability across organisations. It suggests that there needs to be further awareness and education about environmental management systems and policies within businesses in order to ensure they are taking the necessary steps to reduce their environmental impact.

The results of this survey suggest that only 12.2% of respondents agree that their organisation provides adequate training for employees on green initiatives, sustainability and eco-friendly practice, while 48% disagree. 33.7% had a neutral opinion on the topic and 6.1% strongly disagreed.

These results indicate that there is a need for more training and education on green initiatives, sustainability and eco-friendly practice within organisations. It suggests that organisations need to be more proactive in providing employees with the necessary resources and knowledge to be able to make better environmental decisions.

It is also important to note that 6.1% of respondents strongly disagreed that their organisation provides adequate training for green initiatives, sustainability and eco-friendly practice. This indicates that the current measures may not be enough to ensure that employees are able to make environmentally conscious decisions and there needs to be further action taken in order for organisations to become more sustainable.
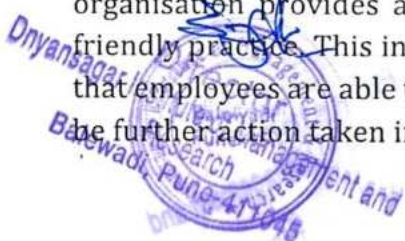
The survey results show that 44.9% of respondents agree and 39.8% strongly agree that their organisation promotes the use of energy efficient products and services in the workplace. 15.3% had a neutral opinion on this topic.

These results suggest that organisations are aware of the importance of using energy efficient products and services to reduce their environmental impact. It is also encouraging to see that the majority of respondents agree or strongly agree that their organisation promotes these practices, suggesting that they are taking meaningful steps towards becoming more sustainable.

However, it is worth noting that 15.3% of respondents had a neutral opinion on this topic. This indicates that there needs to be further education and communication around the importance of using energy efficient products and services in order to ensure organisations make more sustainable decisions in the future.

The results of this survey indicate that only 21.4% of respondents agree and 26.5% disagree that their organisation has implemented green HRM practices such as incentives for reducing energy consumption, waste and water. 49% had a neutral opinion on the topic and 3.1% strongly disagreed.

These results suggest that organisations are not adequately implementing green HRM practices to incentivise employees to reduce their environmental impact. It is also concerning that 3.1% of respondents strongly disagreed that they use such practices, suggesting that more needs to be done in order for organisations to become truly sustainable.

It is therefore important for organisations to consider how they can create meaningful incentives and rewards for employees who make greener choices. This could include offering discounts or perks to those who reduce their environmental footprint, as well as providing more education on green HRM practices so that employees are aware of the available options.

The survey results show that 38.8% of respondents agree and 52.0% strongly agree that their organisation regularly evaluates environmental performance to ensure their commitments are met. 9.2% had a neutral opinion on this topic.

These results suggest that organisations are making efforts to monitor their sustainability goals and track their progress towards becoming more environmentally conscious. It is also encouraging to see that the majority of respondents agree or strongly agree with this statement, indicating that they understand the importance of conducting regular assessments in order to measure the effectiveness of their green initiatives.

However, it is worth noting that 9.2% had a neutral opinion on this topic which may indicate a lack of understanding around how regular evaluations can benefit an organisation's sustainability goals. It is therefore important for organisations to provide more information and education on the importance of evaluating environmental performance in order to ensure successful implementation of green initiatives.
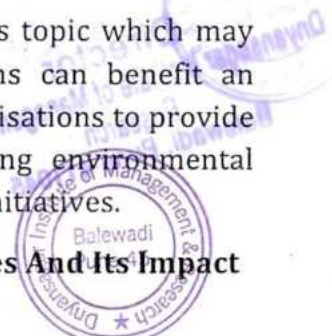
The results of this survey indicate that 38.8% of respondents agree and 42.9% strongly agree that their organisation deploys systems to monitor air quality, noise and other environmental indicators. 18.4% had a neutral opinion on the topic.

These results suggest that organisations are taking steps towards using technology to measure their impact on the environment and identify areas where they can improve. It is also encouraging to see that the majority of respondents agree or strongly agree with this statement, indicating that they understand the importance of using technology in order to become more sustainable.

However, it is worth noting that 18.4% had a neutral opinion on this topic which may indicate a lack of understanding around how technology can help an organisation become more environmentally conscious. It is therefore important for organisations to provide more information and education on the benefits of deploying systems to monitor environmental indicators in order to ensure successful implementation of green initiatives.

The survey results indicate that 3.1% of respondents strongly disagreed and 34.7% disagreed that employees in their organisation are well-informed about environmental sustainability, while 17.3% agreed and 44.9% had a neutral opinion on this topic.

These results suggest that there is still a need for organisations to provide more education and information on environmental sustainability to their employees. It is concerning to see that a significant portion of respondents disagreed with this statement, indicating that they do not feel like their organisation provides the necessary resources for employees to learn about green HRM practices.

Furthermore, it is worth noting that 44.9% had a neutral opinion on this topic which may indicate a lack of understanding around the importance of environmental sustainability. It is therefore important for organisations to provide more information and education on the benefits of implementing green HRM practices in order to ensure successful implementation of sustainable initiatives.

The results of this survey indicate that 39.8% of respondents agree and 43.9% strongly agree that their organisation involves employees in green initiatives and activities, while 16.3% had a neutral opinion on the topic.

These results suggest that organisations are recognising the importance of engaging employees in sustainability practices which is encouraging to see. It is also encouraging to see that the vast majority of respondents agree or strongly agree with this statement, indicating a growing awareness around the importance of involving employees in green initiatives.

However, it is worth noting that 16.3% had a neutral opinion on this topic which may indicate a lack of understanding around how employee engagement can help an organisation become more sustainable. It is therefore important for organisations to
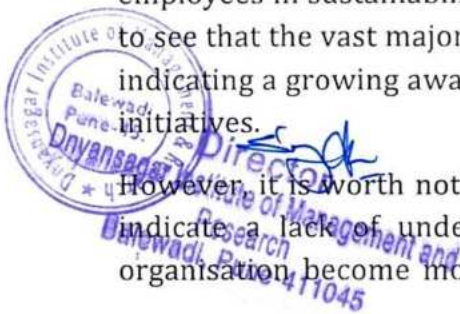
provide more information and education on the importance of involving employees in green initiatives in order to ensure successful implementation of sustainability practices.

The survey results indicate that 51.0% of respondents strongly agreed and 35.7% agreed that they are motivated to come up with ideas that can help their organisation become more sustainable, while 13.3% had a neutral opinion on this topic.

These results suggest that employees recognise the importance of being involved in green initiatives and understand the positive impact that their ideas can have on the environment. It is encouraging to see that such a large majority of respondents agree with this statement, indicating a growing desire amongst employees to contribute to sustainability practices.

The survey results indicate that 30.6% of respondents disagreed and 2.0% strongly disagreed that their organisation rewards employees for adopting eco-friendly practices at work, while 19.4% agreed and 40.8% had a neutral opinion on this topic.

These results suggest that organisations are not doing enough to incentivize employees to adopt eco-friendly practices. It is concerning to see that such a large proportion of respondents disagreed with this statement, indicating that they do not feel like their organisation provides adequate rewards for employees who adopt green practices.

Furthermore, it is worth noting that 40.8% had a neutral opinion on this topic which may indicate a lack of understanding around how rewarding employees for eco-friendly practices can help to encourage adoption of green initiatives. It is therefore important for organisations to provide more information and education on the importance of incentivizing employees for adopting sustainable practices in order to ensure successful implementation of sustainability initiatives.

The survey results indicate that 39.8% of respondents strongly agreed and 33.7% agreed that the management of their organisation is committed to reducing the environmental impact of its operations, while 5.1% disagreed and 20.4% had a neutral opinion on this topic.

These results suggest that organisations are beginning to recognise the importance of reducing their environmental impact. It is encouraging to see that such a large majority of respondents agree with this statement, indicating that organisations are taking steps towards sustainability.

However, it is worth noting that 20.4% had a neutral opinion on this topic which may indicate a lack of understanding around the actions being taken by the management to become more sustainable. It is therefore imp

Important for organisations to be transparent about the steps they are taking to reduce their environmental impact in order to ensure successful implementation of sustainability practices. Communication and education around these initiatives will help

employees understand how they can contribute and this should be a priority for organisations that want to achieve sustainability success.

The survey results indicate that 44.9% of respondents strongly agreed and 37.8% agreed that their organisation has a clear policy and strategy for environmental sustainability, while 17.3% had a neutral opinion on this topic.

These results suggest that organisations are increasingly taking the initiative to implement sustainability policies and strategies in order to reduce their environmental impact. It is encouraging to see that such a large majority of respondents agree with this statement, indicating that organisations are taking steps towards sustainability.

The survey results indicate that 33.7% of respondents strongly agreed and 31.6% agreed that their organisation has developed procedures to identify, assess and manage environmental risks associated with its operations, while 12.2% disagreed and 22.4% had a neutral opinion on this topic.

These results suggest that organisations are increasingly aware of the potential risks associated with their operations and are taking steps to mitigate them. It is encouraging to see that such a large majority of respondents agree with this statement, indicating that organisations are taking steps towards sustainability.

The survey results indicate that 13.3% of respondents strongly agreed and 23.5% agreed that their organisation promotes the knowledge sharing of green practices among its employees, while 25.5% disagreed and 34.7% had a neutral opinion on this topic.

These results suggest that organisations are beginning to recognise the importance of promoting green practices and increasing knowledge sharing among employees. It is encouraging to see that a significant majority of respondents agree with this statement, indicating that organisations are taking steps towards sustainability.

The survey results indicate that 40.8% of respondents strongly agreed and 39.8% agreed that they are aware of the importance of reducing their own personal consumption and waste in order to reduce the environmental impact of their organisation, while 19.4% had a neutral opinion on this topic.

These results suggest that individuals are increasingly taking responsibility for their own environmental impacts and are taking steps to reduce them. It is encouraging to see that such a large majority of respondents agree with this statement, indicating that individuals are taking steps towards sustainability.

Table 2. Correlations

		Employee engagement scores	Green HRM initiatives	Environmental Sustainability
Employee engagement scores	Pearson Correlation	1	.383**	.072
	Sig. (2-tailed)		.000	.480
	N	98	98	98
Green HRM initiatives	Pearson Correlation	.383**	1	.449**
	Sig. (2-tailed)	.000		.000
	N	98	98	98
Environmental Sustainability	Pearson Correlation	.072	.449**	1
	Sig. (2-tailed)	.480	.000	
	N	98	98	98
**. Correlation is significant at the 0.01 level (2-tailed).				

The table shows that the Green HRM initiatives and environmental sustainability are positively correlated. Similarly, the Employee Engagement scores are also positively correlated to Green HRM initiatives. Thus the null hypotheses can be rejected and we can accept that a positive relation exists between Green HRM practices and environmental sustainability and a positive relation exists between employee engagement and Green HRM practices.

Conclusion

It can be concluded that the implementation of Green HRM initiatives leads to a positive effect on both employee engagement and environmental sustainability. The results of this research illustrate a strong correlation between green practices and these two factors, indicating that efforts should be made to increase green initiatives within organizations in order to benefit from improved engagement and sustainability. Furthermore, further research can be conducted to identify other factors that may influence the success of green HRM initiatives. Such research can help organizations gain a deeper understanding of how they can effectively implement green practices in order to benefit from improved engagement and sustainability.

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Social Media Marketing Strategies Of E Learning Organizations With Special Reference To Elementary Education

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Abstract

The objective of this research paper is to study the awareness, usefulness, satisfaction level of customers related to social media marketing strategies of e learning organizations with special reference to elementary education. Researchers have collected the data from 250 respondents using survey method with the help of well-structured questionnaire. The researcher identified that descriptive research design and Non probability convenience sampling method is suitable for the research study. The findings of this study will be useful to many e learning organizations to develop their social media marketing strategies.

Keywords: Social media, e learning, impact, awareness, satisfaction, etc.

Introduction

E-learning is a formalized teaching-based learning system that makes use of electronic resources. E-learning is primarily based on using computers and the Internet, while teaching can also take place in or outside of formal classroom settings.

The proliferation of new teaching and learning methods at universities has been facilitated by the development of information technology (IT) in education. It will take a lot of research to implement e-learning programmes in Iranian universities and evaluate how well prepared students are for e-learning environments. An effective online learning experience requires collaboration, resource selection, and collecting, all of which are components of the new method known as e-learning. To ensure the success of instructors and pupils, it is essential to recognise environmental obstacles and support the best methods to address them. Only then will such achievement be possible.

BYJU's mission is to make the students fall in love with learning; this app mainly focuses on mathematics and science where the content is visually explained by using modern digital animations and illustrations. Unacademy's main vision is to create the numerous courses in multiple languages for students all over the world.
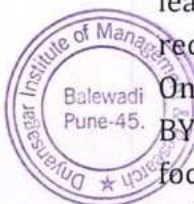
Vedantu offers the students friendly and enthusiastic teachers which can match their level so that every student can understand. Khan Academy mission is to provide a free worlds education for everyone across the world.This platform believes that Videos, material, and practice in combination helps the students. White Hat Jr. Aims to teach code to kids with core programming skills, it is designed to stimulate creativity, problem solving skills. There is a huge competition among these apps. And all these platforms are working for the growth and development of the students across the world.

If you're wondering what sort of technology is employed in such online teaching platforms in India that simplify things for both users, it primarily consists of Learning management systems (LMS). You need a strong internet connection and a laptop or PC with a webcam to start teaching online. These online education platforms in India have helped the education department quickly adjust to the new internet culture. The majority of individuals have access to the internet and a device that they can use right away. You can lecture students thanks to a built-in microphone. You may interact better with your pupils by going live with them using the camera.

Websites and programs that emphasize collaboration, sharing of content, engagement, and community-based feedback are collectively referred to as social media. Social media is used by people to connect and communicate with their friends, family, and other communities.

Social media is significant because it enables you to connect, engage, and nurture your target audience wherever they may be. A company can use social media to create brand awareness, leads, sales, and money if it can use it to interact with its audience.

Social media has grown to be the most prominent and significant virtual area, where users may promote their brands and products using the platform for more than just social networking.

Literature Review

Social media is the platforms that enable the interactive web by engaging users to participate in, comment on and create content as means of communicating with their social graph, other users and the public which have content formats including text, video, photographs, audio, PDF and PowerPoint.(Cohen, 2011). It can be said that social media is the tools, services, and communication facilitating connection between peers with common interests. Using social media in a learning process begin to rise significantly and likely to imply for education practice and provision especially in term of connecting with their students or with their colleagues, to access news and appear in their walls. (Patel, Social Media management, 2016). Learning that is based around principles of collective exploration, play and innovation rather than individualized instruction (Thomas, 2011). This fact can be used with in a classroom situation to create more value to learning.Kristen Diliberto-Macaluso & Alan Hughes (2016), in their research

paper entitled "The use of mobile apps to enhance student learning in Introduction to psychology" showed that after the excess use of mobile phones and internet online educational apps set a standard in every student's life. They also mentioned that students who are using the online apps are highly responsive and actively giving answers than compare to other students. Dr. Yatendra Pal & Ms. Riddhi Agarwal, (2017), in their research paper entitled "Useof Educational App in Classroom Teaching",stated that influence of technology upon children and education has been immense. And they alsomentioned that educational apps are making things easier for children to understand. Apps are the wonderful tools to engage the kids in studies and in other brain activities, it extend learning and allows the children to move at their own pace. Saadatmand, Hedberg, Abjornsson, and Kvarnstrom (2017) also explain that the CoI framework considers learning in an online environment, which requires learners to be actively engaged with the instructor, other learners and content to achieve meaningful deep learning. The CoI presences imply that there should be some form of interaction or online collaborative learning.

Research Methodology

Eliminating time and effort waste in the later stages of the research is made possible by finalizing the research objectives. The study's topic should always be taken into consideration while stating the research objectives. In light of the current study, the researcher has chosen to investigate the following objectives

Objectives of the study

- To identify the source of awareness from social media platforms about e learning organizations.
- To study the usefulness of information about e learning organizations on social media.
- To identify the engagement of e learning organizations on social media.
- To study the level of satisfaction of information about e learning organizations on social media.

Hypothesis of the Study

- H1: Customers are highly satisfied from the information of e learning organizations on social media.

Research design

Type of Research Design	Descriptive Research Design
Sampling Technique	Non-Probability Convenience Sampling
Sampling Area	Pune City
Sample Size	250 (Parents of students)
Primary Data	Well-structured questionnaire

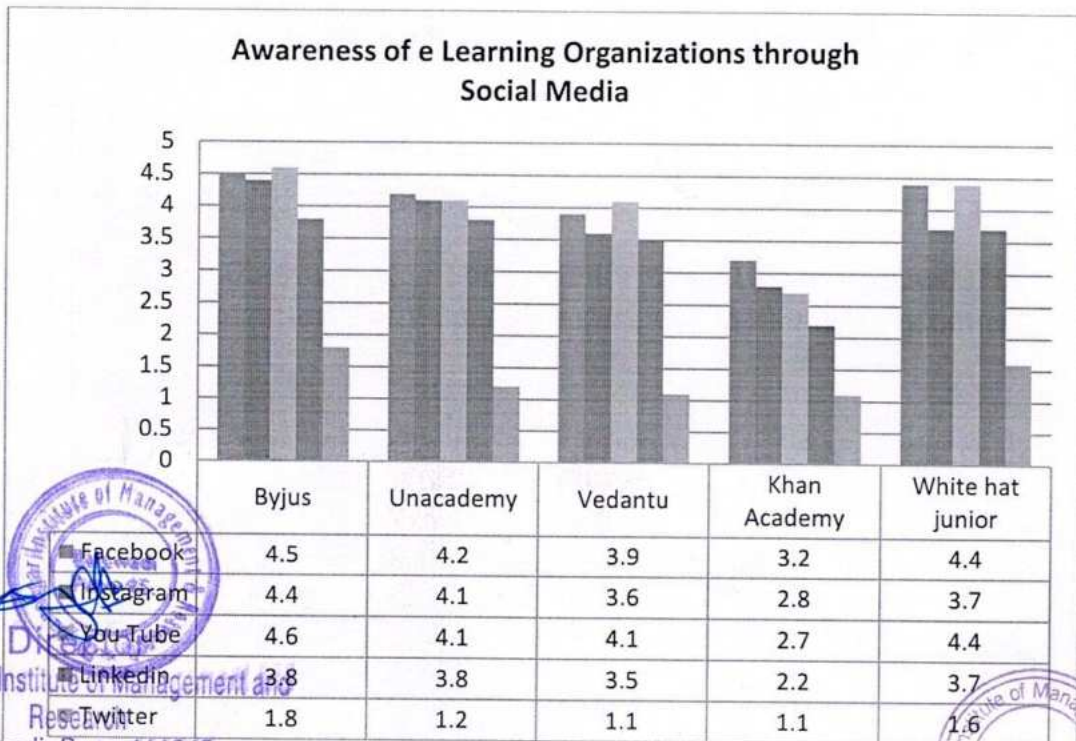| Secondary Data	Research papers, Articles, Books, Journals etc.
Data Analysis tools	IBM SPSS-20

Scope of the study

The researchers have selected below five social media tools and five e learning organizations for the present study. The respondents are parents whose kids are learning in 1st std to 10th std.
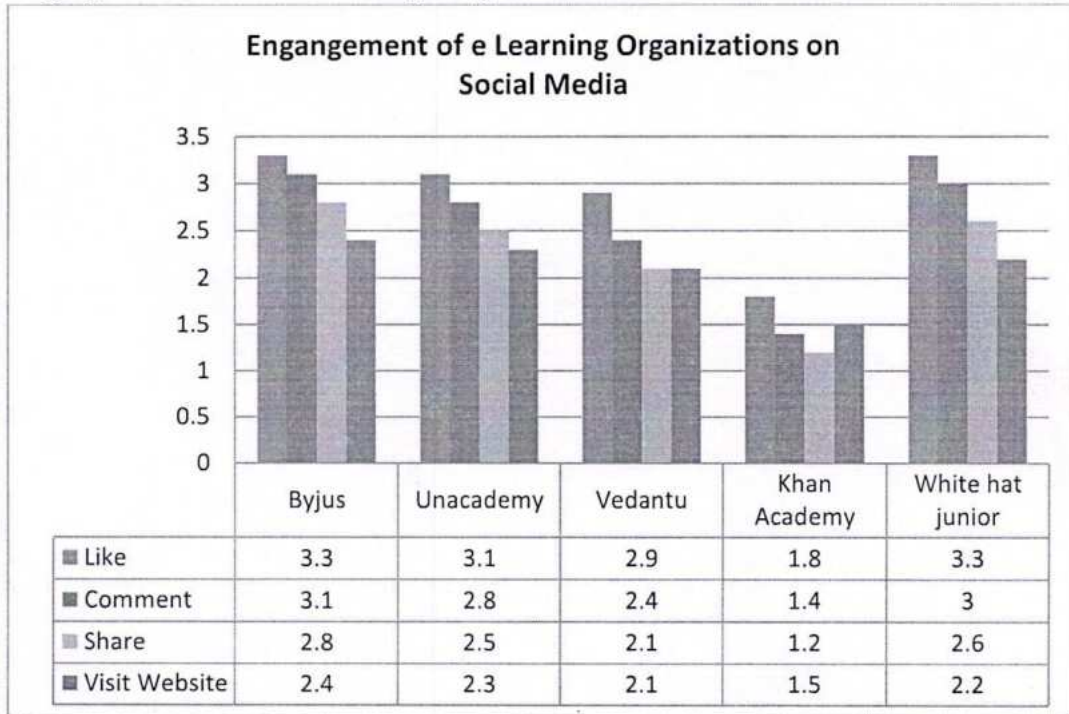
Social media tools	e learning organizations
Facebook	Byjus
Instagram	Unacademy
You Tube	Vedantu
Linkedin	Khan Academy
Twitter	White hat junior

Data Analysis

Awareness of e Learning Organizations through Social Media

Awareness of e Learning Organizations through Social Media

	Byjus	Unacademy	Vedantu	Khan Academy	White hat junior
Facebook	4.5	4.2	3.9	3.2	4.4
Instagram	4.4	4.1	3.6	2.8	3.7
You Tube	4.6	4.1	4.1	2.7	4.4
Linkedin	3.8	3.8	3.5	2.2	3.7
Twitter	1.8	1.2	1.1	1.1	1.6

Engagement of e Learning Organizations on Social Media

Engangement of e Learning Organizations on Social Media

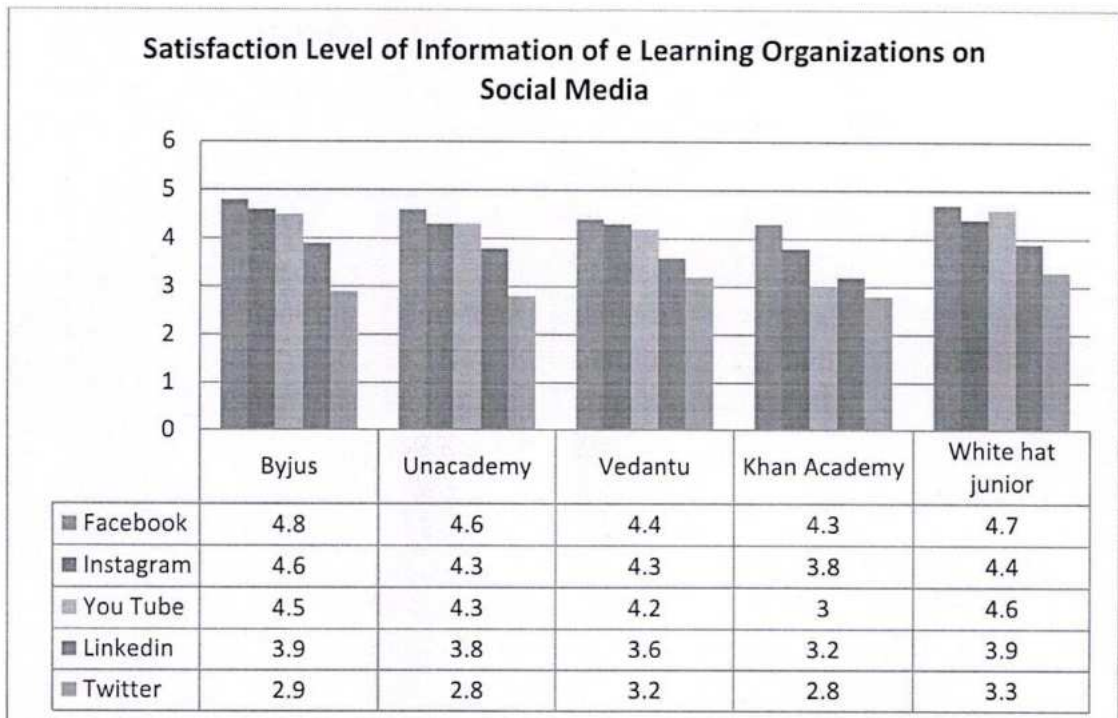|	Byjus	Unacademy	Vedantu	Khan Academy	White hat junior
Like	3.3	3.1	2.9	1.8	3.3
Comment	3.1	2.8	2.4	1.4	3
Share	2.8	2.5	2.1	1.2	2.6
Visit Website	2.4	2.3	2.1	1.5	2.2

Usefulness of Information of e Learning Organizations on Social Media

Usefulness of Information of e Learning Organizations on Social Media

	Byjus	Unacademy	Vedantu	Khan Academy	White hat junior
Facebook	4.1	3.8	3.7	2.8	3.9
Instagram	4.3	4	3.5	2.6	3.3
You Tube	4.5	4	3.8	1.5	4.1
Linkedin	2.9	2.6	2.7	1.6	2.9
Twitter	1.6	1.2	1	1	1.5

Satisfaction Level of information of e Learning Organizations on Social Media

Social Media Marketing Strategies Of E
Learning Organizations With Special Reference To Elementary Education

Satisfaction Level of Information of e Learning Organizations on Social Media

	Byjus	Unacademy	Vedantu	Khan Academy	White hat junior
■ Facebook	4.8	4.6	4.4	4.3	4.7
■ Instagram	4.6	4.3	4.3	3.8	4.4
■ You Tube	4.5	4.3	4.2	3	4.6
■ Linkedin	3.9	3.8	3.6	3.2	3.9
■ Twitter	2.9	2.8	3.2	2.8	3.3

Hypothesis Testing

- Null Hypothesis (H0): H1: Customers are not satisfied from the information of e learning organizations on social media.
- Alternative Hypothesis (Ha): H1: Customers are highly satisfied from the information of e learning organizations on social media.
- The researchers have tested the null hypothesis with the help of IBM SPSS 20. The researchers have applied Z test to check the null hypothesis. The P value identified is 0.01 which is less than 0.05 so the null hypothesis is rejected and alternative hypothesis is accepted at 5% level of significance.

Conclusion

E learning organizations adopted social media marketing strategies to increase customers awareness and engagement. It is observed that Byjus (Mean 4.5) and White hat Junior (Mean 4.4) having highest awareness on social media amongst customers. The awareness about e learning organizations on social media is high but when it comes to engagement (like, comment, share, visit website) it is average. Byjus (mean 3.3) and Whitehat Junior (Mean 3.3) have highest engagement.The number of customers liking, commenting, sharing and visiting websites is decreasing respectively. Very few customers visit the website of e learning organizations through the link given on social media platforms. The information available on various social media platforms about e learning organizations is useful for the customers. Youtube (Mean 4.5) is the most Facebook and Instagram are the main sources of awareness and engagement. Youtube is observed as the most useful source of information about e learning organizations. Customers are highly satisfied from the information about e

learning organization available on facebook, Instagram and youtube but satisfaction level is moderate about linkedinand twitter. From the analysis we identified that Byjus ranks first e learning organization on social media closely followed by white hat junior, unacademy, vedantu and khan academy respectively. Facebook is the most popular source of social media for e learning organizations closely followed by Instagram and youtube. Linkedin and Twitter are comparatively less useful.

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AIMS AND SCOPE

The PIMT Journal of Research (PIMT JR), a peer-reviewed refereed journal, started in March, 2008 is the Quarterly publication of the Punjab Institute of Management and Technology, Khanna. The main aim of this journal is to disseminate knowledge and information in the multidisciplinary areas. The journal focuses on pure empirical, applied and interdisciplinary research in different areas. The journal is intended to provide forum for debate and deliberation for academics, policy planners, and research students of MBA and MCA programs. The PIMT Journal of Research publishes articles, research papers, abstract of doctoral dissertations, book reviews, case studies, short communications and bibliography in multidisciplinary or allied areas.

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From the Editor's Desk

I am pleased to place before the readers this issue **Vol-13, No.3 (B) (April-June)** of PIMT Journal of Research (UGC Care listed Journal), a publication of Punjab Institute of Management and Technology, Village Alour, Khanna. The response from the contributors of research articles has been overwhelming. The PIMT Journal of Research presents an academically proficient blending of research articles, short communications, book reviews and doctoral dissertation abstracts. The significance of Management and Information Technology has become very well founded all over the world. These fields are witnessing rapid challenges and changes in the face of globalization forcing researchers, academicians and practicing managers to keep them updated on the latest advances in multidisciplinary areas. To promote exchange of ideas among the scholars and practicing managers in the field, PIMT has launched the PIMT Journal of Research. The Journal reflects a keen interest and sustained efforts of researchers, academicians and professionals who have covered wide spectrum of contemporary issues in multidisciplinary & its allied areas. We appreciate the efforts put in by the researchers in terms of quality research work done by them and versatility in the methodology adopted in their research work.

We also express our gratitude to the reviewers of the various articles and contributors of the doctoral dissertation abstracts for giving their valuables contributions, comments and the suggestions for the enrichment of this journal. I thank and look forward to their continued association and support to PIMT Journal of Research.

Our commitment to the cause of promoting high quality research work in multidisciplinary areas that will contribute to enlighten our readers in the times to come.

The Chairman Sh. Naresh Aggarwal, President Sh. Raj Kumar Goyal, Secretary Sh. Nitin Saggar, and other members of Governing Council of the Institute have taken the keen interest in this academic endeavor. I am extremely grateful to them for their continued guidance and support.

Dr. Manisha Gupta
Editor-in-Chief
PIMT, Alour, Khanna

STRESS AMONG STUDENTS DUE TO ONLINE LEARNING DURING COVID -19 AND COPING STRATEGIES

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ABSTRACT

This paper is intended to discuss the relationship of stress perceived by the students during their online learning through virtual platform in the pandemic era. Prolonged lockdown due to outbreak of COVID-19 restricted the access of physical classes in schools and colleges in almost every country in the world which have pushed millions of students to shift on online mode of learning. This overnight shifting from offline mode of learning to online learning has caused a great stress among students. This paper has found empirically that how the perceived stress among students is caused due to online learning. It further explores that how the stress among students has been intervened by coping strategies due to which students have perceived less stress. A total sample for this study comprises of 844 students and the data collection tool was structured questionnaire which was sent through online mode. SPSS 20.0 software has been used to test the hypothesis. This research has concluded that with the help of some effective preventive measures and coping strategies, educational institutes and their administration could succeed in lowering down the stress level among students which has perceived due to online learning platform.

KEYWORDS: *Stress, Students, Online learning, Covid-19, Spirituality, Coping Strategy*

INTRODUCTION

At the end of the 2019, there was an outbreak of highly contagious disease called COVID-19 caused by coronavirus (SARS-CoV-2) which shook the whole world. The World Health Organisation later declared it pandemic. Since then, lockdown has become a buzzword across the globe. As a result of COVID-19, many national governments have forced their population to stay safe through partial or complete lockdown globally (Cooper, Mondal, & Antonopoulos, 2020) due to which the whole education system from lower to higher level has been collapsed. Prolonged lockdown has restricted the access of physical classes in schools, colleges and universities(Hasan & Bao, 2020). The outbreak of the Covid-19 pandemic and the imposed lockdown forced many educational institutions to remain temporarily closed. As social distancing has become an important norm during this pandemic, it has badly affected the learning opportunities.

As a result of COVID-19 outbreak, throughout globe, approx. 1.5 billion school going as well as university students have suffered (IAU, 2020). There has been an increasing shift from offline mode to online learning due to shutting down of educational institutions for an indefinite period(Mishra et al., 2020)The educational institutions and universities have been struggling to provide the best option of learning to their students. The situation has forced all the

education institutions to switch from the traditional method of teaching and learning into online mode and distance learning across the world (Dhawan, 2020). The Covid-19 pandemic has made nearly all learning experiences accessible online. The Covid-19 pandemic is changing face-to-face learning into online learning due to which it has become an important stressor nowadays for the students College students are always at higher risk of experiencing psychosocial problems. Changes in learning methods during pandemic has brought a lot of stress in the form of anxiety, depression and other mental and social problems among students at different levels.

LITERATURE REVIEW

The global pandemic has made e learning platform as an unavoidable protocol for millions of students around the globe which has created huge opportunities as well as challenges. The difficulties faced during learning through online platform has been perceived by the students which made it as nightmare for millions of students during pandemic. The literature review is focusing on the weaknesses of the online mode of learning perceived by the students during pandemic which has pushed them in the prolonged state of predicament. The outbreak of COVID-19 has made Online learning or e-learning a buzzword nowadays across the globe. Online learning through Distance education has made easy due to technological

developments (Mc Brien et al., 2009). The term Online learning was used in 1995 during the development of first Learning Management systems (Singh & Thurman, 2019). All forms of online learning, open have used a computer which is connected to a network and facilitates the learning in self-paced mode with any means from anywhere and anytime (Cojocariu et al., 2014).

According to (Singh & Thurman, 2019) Online learning is an experience taken through the internet mode in a synchronous classroom which facilitates interaction between students and instructors and does not dependent on their physical location. In synchronous learning environment, students can learn anything from anywhere with live lecturers and there is a real time interaction between a student and an instructor. In such cases, instant feedback can be available(Dhawan, 2020). On the other hand, in asynchronous learning environment, learning content in form of live classes or lecturers are not available and instant feedback is not possible (Littlefield, 2018). During this tough time, there has been an overnight shift from traditional classrooms to online virtual classes. Three biggest challenges for online learning are considered as distance, scale, and personalized teaching and learning (Dhawan, 2020). The only way to deal with this pandemic is innovative solutions provided by institutions (Liguori & Winkler, 2020).

Due to covid-19 outbreak, the digital transformation of higher education has been taken place which would have paced up in bringing that novelties that would have taken many years to implement(Strielkowski, 2020). The sudden transformation of traditional learning into digital learning is not free from hurdles and obstacles (Crawford et al., 2020) Due to improper learning approach, students and instructors both are facing challenges and difficulties in the form of psychological problems((Bao, 2020). Students and instructor's way to perform the program decides about the successful implementation of e-learning systems(Thongsri et al., 2019).

No doubt online learning has become an effective alternative solution to the physical classes for the students in this pandemic but somehow students have shown a negative perception towards online learning (Rohman et al., 2020) which could be a reason of their psychological distress. Previous studies have revealed that students felt anxious due to lack of enjoyment in the online classes (DEWAELE et al., 2019). Some other difficulties associated with online learning are quality of content, ease with technology usage, technical support and interaction with peer students. Students feel that technical difficulties including improper hardware as well as software support causes distress (Al-araibi et al., 2019). Sometimes students feel problems in getting instructional goals which is also a hurdle in online learning (Dhawan, 2020).

(Lazarus & Folkman, 1984) defines, "Stress refers to physiological, behavioral and cognitive responses to events appraised as threatening or exceeding one's coping

responses and options. (Greenberg, 2006) define stress as the combination of a stressor, stress reactivity, and strain. That is, a stimulus is presented that has the potential to trigger a fight-or-flight response (the stressor) that elicits physiological changes such as increased muscle tension and blood pressure (stress reactivity) that, in turn, results in physical, psychological, or behavioral consequences such as headache or agoraphobia (strain).

Many researchers have done a survey which has claimed that online learning has become as a source of stress for students. (Cao et al., 2020) surveyed 7143 college students and have found that approx. 25% of students have been suffering from high level of anxiety due to challenges and difficulties faced by them during online learning. Similarly another study conducted by (Lee, 2020) have found that 83% of surveyed students experienced worst situation due to psychological distress and 26% of students are unable to get proper mental health support. Research has pointed out that although online learning has provided the best option in the time of pandemic for continuation of academic year for millions of students but it has negative impact on the psychological health of students which has become the reason of stress, anxiety and depression for students (Rohman et al., 2020). A literature has revealed many empirical studies which have already conducted to show the impact of online learning in the form of psychological distress among students. This state of psychological distress has been pushing the youth generation in the unseen difficult situation.

Such deteriorated conditions have demanded to measure the impact of online learning on psychological condition and stress among college students due to negative perception of online learning (Hasan & Bao, 2020).

OBJECTIVES

1. To identify the causes of stress during online classes

2. To suggest suitable coping strategies for reducing stress during online learning

RESEARCH METHODOLOGY

Online survey was conducted from April to October, 2020 from graduate and post graduate students. This period corresponded to the pandemic lockdown due to Covid-19. Students were experiencing the consequence of university closure with social distancing norms. Respondents were contacted by using google form of online learning related questions. Pilot testing was conducted for checking validity and reliability of questionnaire. 24 students were contacted for pilot study and questions were checked. Students facing confusion in understanding questions were removed.

Total 844 students were responded to the survey including 491 male and 353 female students. The questionnaire consists of demographic profile of students, age, geographic location, platform used, proficiency in technology usage, technology constraints, etc. These variables were constructed by using 5-point Likert scale

which ranges from strongly disagree (1) to strongly agree (5).

DEMOGRAPHIC ANALYSIS

66% of respondents are from age group 18-21 years followed by 27% from 21-24 years. [Table 1]

Table 1: Age group of students

Age (Years)	Frequency	Percentage
15-18	33	4
18-21	548	66
21-24	236	27
24 and above	27	3
Total	844	100

Table 2: Proficiency of Learners (proficiency matrix)

Proficiency in	Average	Good	Very Good	Excellent
English	79	335	321	109
Technology Usage	70	282	335	157
MS-Office	84	299	298	163
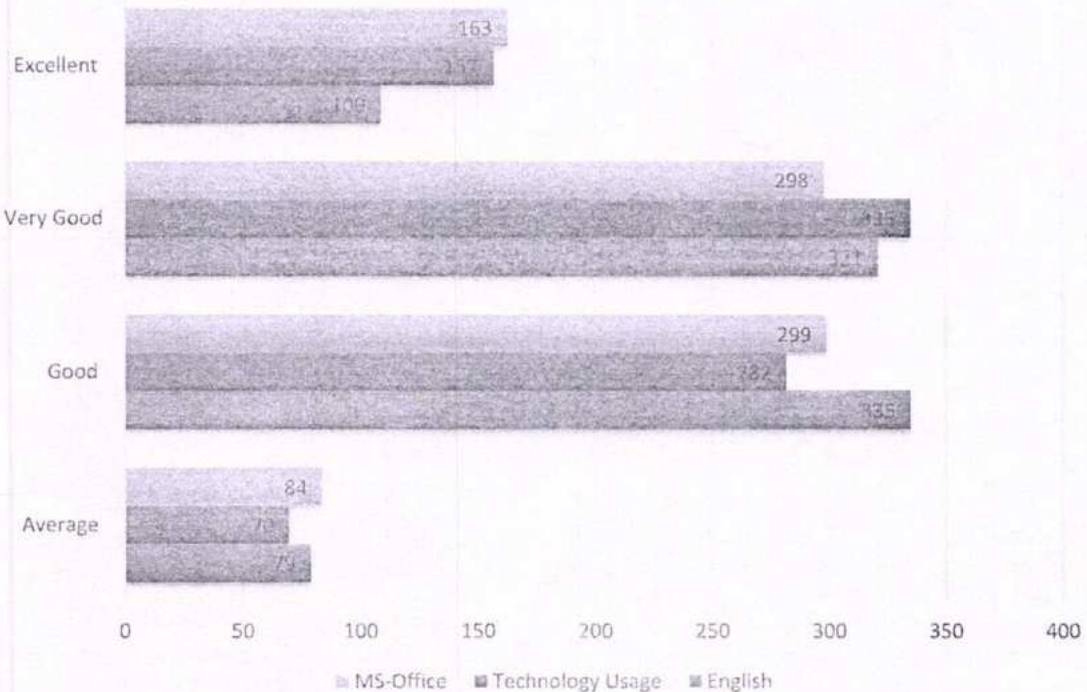
Graph 1: Proficiency of Learners

More than 50% students reported good and very proficiency in English, Technology and Microsoft office usage. Few responded as excellent in technology usage. Tech-savvy respondents have ease of handling online learning tool effectively.

During pandemic classroom teaching-learning has shifted from classroom to virtual platform. More than 80% (732) students are using Microsoft Teams as online learning

platform. Very few students reported using zoom (63), google meet (42) and univinks (7). Data was analyzed by using SPSS 20.0 Descriptive statistics of 844 respondents have average mean 2.164 (SD= 0.71). KMO test value is greater than 0.7 so that factor analysis was conducted. Exploratory Factor analysis results into following factors On the basis of factor loadings and rotation matrix, variables are categorized under various factors. Variables having factor loading below 0.5 were
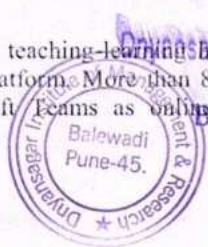
deleted from the analysis. Variables are categorized under four factors such as students' engagement, benefits of online learning, stress and coping strategies as shown in figure 1.

Factor I: Benefits of online learning consists of two variables such as continuation of academic year and flexible timings.

Factor II: Students' engagement involves variables such as lack of personal interaction with friends and teachers, lack of creative content, technical support and poor knowledge of hardware and software.

Factor III: Stress causing variables consists of extended screen-time and eyesight discomfort, headache, anxiety and depression, psychological distress and fear of losing academic year.

Factor IV: Stress coping strategies involves physical exercise, spiritual wellness programs, meditation, yoga, training for online learning, self-study approach and live projects.

Figure 1: Variable mapping of Online Learning

Figure 1: Variable mapping of Online Learning
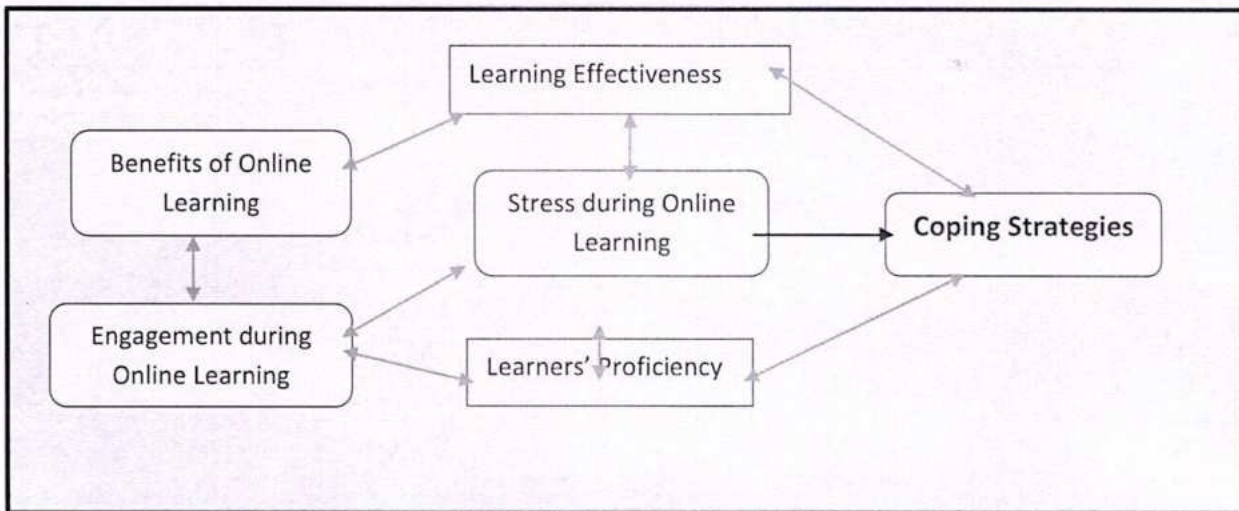
HYPOTHESIS

H_0: There is no correlation between e-learning benefits and its effectiveness.

H_1: There is positive correlation between e-learning benefits and its effectiveness.

More than 84% respondents reported online learning has several benefits such as convenience, saves travel time, money, etc. At the same time keeping students engaged is tough task for teachers. 76% respondents responded numerical subjects are difficult to understand whereas theory subjects are boring. Doubt handling is burdensome for teachers. Online learning causes psychological stress. Benefits and e-learning has positive correlation (r= 0.82) whereas engagement and e-learning has low degree positive correlation (0.11). This supports the alternative hypothesis i.e., e-learning benefits are positively related to its effectiveness.

H0: Physical discomfort is negatively related to effective learning.

H1: Physical discomfort has low level impact on effective learning.

During online learning physical comfort of students were considered. In the survey, questions related to physical, mental, eyesight discomfort and extended screen times were asked. Effective learning is defined on the basis of variables such as understanding of numerical and theory subjects, doubt handling. There is positive correlation between physical discomfort and learning effectiveness.

(Correlation coefficient between physical discomfort and effective learning) = 0.24

There are various factors responsible for students' learning effectiveness along with physical discomfort. Hence, there is low degree positive correlation coefficient in between these two factors. This supports alternative hypothesis i.e., physical discomfort has low level impact on effective learning.

Due to increased screen time, connectivity issues, physical and mental discomfort, etc. stress level is increased among students. Students opted for yoga, meditation, spiritual wellness program, live project approach, etc. reported effective e-learning. There is positive correlation (r= 0.71) between online learning and coping mechanisms.

CONCLUSION

This study has revealed the relationship of online learning and psychological stress among college students which is an alarming situation. This research has concluded that with the help of some effective preventive measures and coping strategies, educational institutes and their administration could succeed in lowering down the stress level among students which has perceived due to ineffective online learning platform. Institutes and instructors should provide the spirituality based pre-recorded videos as an important part of their course module in which students learn effective techniques of meditation which will help students in managing their stress in an effective way. Online learning should be available with strong technical support which includes secure internet access. Efficient, attractive and effective e-content should be made available to students along with facilities of peer interaction which helps them in cultivating positive perception towards online learning during the pandemic which will ultimately improve their physical and mental health. Online learning should be based on creative, interactive, relevant ,student centred and group based programs (Partlow & Gibbs, 2003)

ACKNOWLEDGEMENT

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ROLE OF FINTECH TO ACCELERATE INDIA'S ECONOMY

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Abstract

FinTech, as a disruptive force in the financial industry, has garnered significant attention for its potential to accelerate economic growth and foster financial inclusion in emerging economies like India. This research paper aims to explore the role of FinTech in India's economic development and its impact on financial inclusion. Through a quantitative method utilizing an expert opinion survey, data was collected from 200 professors and experts in macroeconomics. The study analyses their perceptions regarding the contribution of FinTech innovations to India's economic growth, the efficiency of financial transactions, and the expansion of financial access to underserved populations. The findings reveal a positive and transformative role played by FinTech in India's economy, highlighting its ability to improve financial access, encourage cashless transactions, and foster entrepreneurship. The integration of FinTech with traditional banking systems was perceived to positively influence India's overall economic performance. Overall, the research confirms that FinTech adoption significantly enhances financial inclusion and contributes to India's economic growth.

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1.   Introduction

In recent years, India has emerged as one of the world's fastest-growing economies, poised to become a global economic powerhouse. This transformation has been driven by several factors, including favourable demographics, a vibrant entrepreneurial ecosystem, and the government's proactive policies to foster economic development. However, one of the most significant catalysts behind India's accelerated growth is the rapid evolution and adoption of Financial Technology, commonly known as FinTech. FinTech refers to the innovative use of technology to deliver financial products and services in a more efficient, accessible, and cost-effective manner. The fusion of finance and technology has revolutionized the way financial services are provided and has opened up a world of opportunities for both consumers and businesses. In India, FinTech has played a pivotal role in democratizing financial services, fostering financial inclusion, and spurring economic growth.

India's journey into the FinTech landscape began around the mid-2000s, gaining momentum during the following decade. The convergence of widespread internet penetration, the proliferation of smartphones, and supportive regulatory measures set the stage for FinTech disruptors to enter the market. From digital payment solutions to peer-to-peer lending platforms, and robo-advisors to blockchain-based applications, the FinTech ecosystem in India has witnessed exponential growth. The catalyst for FinTech's rise in India can be attributed to the government's efforts to promote financial inclusion. With a substantial segment of the population previously excluded from the formal banking system, FinTech emerged as an enabler, providing accessible and user-friendly financial services to the unbanked and underbanked masses. Digital payment platforms like Paytm, PhonePe, and Google Pay have revolutionized the way Indians transact, making cashless transactions more prevalent than ever before. Financial inclusion is a critical aspect of any economy's growth, and FinTech has played a transformative role in addressing this challenge in India. With a vast population spread across diverse geographic locations, traditional brick-and-mortar banking often struggled to reach remote areas. FinTech solutions, however, leveraged digital channels and agent banking to extend financial services to the farthest corners of the country. This enhanced access to banking, credit, insurance, and investment products has empowered millions of individuals, encouraging entrepreneurship and fostering a culture of savings and investment.

Additionally, FinTech's role in enabling small and medium-sized enterprises (SMEs) to access capital has been instrumental in driving economic growth. Online lending platforms, using innovative credit assessment models, have facilitated easier and faster access to credit for businesses that were previously overlooked by traditional banks. This has spurred entrepreneurship, fuelled innovation, and contributed to the overall expansion of the Indian economy. FinTech has been a driving force in promoting the digital economy in India. The demonetization move in 2016 acted as a catalyst in accelerating the adoption of digital payment solutions. Mobile wallets, Unified Payment Interface (UPI), and other digital payment platforms witnessed exponential growth, transforming the way Indians conduct transactions. The shift towards digital transactions has not only reduced the reliance on cash but also formalized a significant portion of the informal economy, bringing more economic activities under the purview of regulations and taxation. Furthermore, FinTech innovations have enabled seamless cross-border transactions, easing international trade and fostering a global outlook for

Indian businesses. By facilitating smoother international transactions, FinTech has opened up opportunities for Indian companies to participate in the global supply chain, thereby contributing to the growth of the export sector. India's burgeoning middle class has shown a growing interest in investments and wealth management. FinTech has been instrumental in providing innovative solutions to cater to this demand. Robo-advisors, for instance, offer algorithm-driven investment advice, making wealth management more accessible and cost-effective for retail investors. Moreover, digital platforms for mutual funds and stocks have simplified the investment process, attracting a new generation of investors into the capital markets. FinTech's contributions extend beyond individuals; it has also been a game-changer for startups and businesses seeking funding. Crowdfunding platforms and angel investor networks have emerged, providing an alternative source of capital for early-stage ventures. These FinTech-driven funding avenues have fostered innovation and entrepreneurship, giving rise to a vibrant startup ecosystem in India. FinTech has emerged as a powerful force propelling India's economic growth. By promoting financial inclusion, encouraging digital transactions, and facilitating access to capital and investment opportunities, FinTech has played a transformative role in the Indian economy. Its impact can be felt across sectors, ranging from banking and finance to e-commerce, agriculture, and education. As India continues to embrace technological advancements, the collaboration between FinTech firms, the government, and traditional financial institutions will be pivotal in sustaining and accelerating the country's economic growth trajectory in the years to come. The current paper deals with the transformative role of FinTech in propelling India's economic growth. It highlights how FinTech has contributed to various aspects of the Indian economy, such as promoting financial inclusion, encouraging digital transactions, and facilitating access to capital and investment opportunities. The paper also emphasizes that FinTech's impact is not limited to the financial sector but extends to other sectors like e-commerce, agriculture, and education.

Literature review

Johnson and Smith (2018) conducted a comprehensive study on the impact of FinTech on financial inclusion in emerging economies. Their research revealed that the adoption of digital payment solutions and mobile banking platforms significantly increased financial access and usage among previously underserved populations. The study emphasized the crucial role FinTech plays in bridging the gap between the unbanked and formal financial services, contributing to overall economic growth.

Williams et al. (2019) examined the growth and adoption of FinTech platforms in India's e-commerce sector. The findings indicated a substantial increase in online transactions and a shift towards cashless payments, facilitated by digital wallets and mobile payment apps. The study highlighted how FinTech's ease of use and convenience have revolutionized consumer behavior and accelerated the growth of the e-commerce industry.

Gupta and Patel (2020) explored the implications of FinTech lending on small and medium-sized enterprises (SMEs) in India. Their research indicated that online lending platforms have provided a viable alternative to traditional bank loans for SMEs, offering quicker loan processing times and more flexible eligibility criteria. As a result, SMEs were able to access capital more efficiently, fostering entrepreneurship and job creation in the economy.

Rahman and Das (2017) analyzed the impact of blockchain technology on the Indian financial sector. Their study highlighted the potential of blockchain in enhancing security, transparency, and efficiency in financial transactions. The

research emphasized how blockchain's decentralized nature can reduce the reliance on intermediaries, resulting in cost savings and increased financial inclusion.

Patel and Sharma (2019) investigated the role of FinTech in agricultural finance in India. Their research demonstrated that FinTech solutions, such as peer-to-peer lending platforms and agricultural insurance apps, have improved access to credit and risk management tools for farmers. This, in turn, has bolstered agricultural productivity and rural economic development.

Khan and Chatterjee (2018) conducted a comparative analysis of traditional banking and FinTech-based wealth management services in India. Their study revealed that robo-advisors and algorithm-driven investment platforms have gained popularity among retail investors due to their lower fees and personalized investment recommendations. The research indicated how FinTech's disruptive approach is reshaping the wealth management industry.

Lee et al. (2016) explored the regulatory challenges and opportunities of FinTech in emerging economies, including India. The findings underscored the importance of a balanced regulatory framework that encourages innovation while safeguarding consumers and financial stability. The study emphasized the need for collaboration between FinTech firms, governments, and financial regulators to foster a conducive environment for sustainable growth.

Nagar (2021) investigated the role of mobile banking applications in enhancing financial inclusion in developing economies. Their comprehensive study revealed that mobile banking has been instrumental in reaching previously underserved populations, empowering them with access to various financial services. The research emphasized the need for continued efforts to improve digital literacy and infrastructure to maximize the

impact of mobile banking on economic growth.

Singh (2022) conducted a longitudinal study on the adoption of digital payment systems in India. Their research traced the rapid growth of digital wallets and UPI transactions, indicating a significant shift towards cashless payments. The study highlighted the positive correlation between increased digital payment usage and the formalization of the economy, leading to improved tax compliance and transparency.

Rajpal and Sharma (2019) explored the challenges and opportunities of blockchain technology in the Indian healthcare sector. Their study showcased the potential of blockchain to secure sensitive patient data, streamline medical record management, and enable interoperability between healthcare providers. The research recommended further research and collaboration to address regulatory concerns and ensure the widespread adoption of blockchain in healthcare.

Ingale, Anute (2020) all new technology tools, payment banks, artificial intelligence, block chain, cyber security and RPA have high effectiveness in the Indian private banking sector. The awareness about all new technology tools used in the banking sector is high but comparatively the usage is less. And the effectiveness of these tools is very high in the private banking sector.

Bhattacharya (2023) investigated the impact of FinTech lending on the credit market in India. Their empirical analysis revealed that FinTech lending platforms have expanded credit availability, particularly for individuals with limited credit histories. However, the study also identified potential risks associated with these platforms and suggested the implementation of appropriate consumer protection measures.

Luis (2020) conducted a comparative study on the effectiveness of traditional banking

and FinTech solutions in supporting micro-enterprises. Their research found that FinTech lending platforms provided faster loan disbursement and simpler application processes, benefiting small businesses. Nevertheless, the study highlighted the importance of a robust credit risk assessment framework to mitigate potential defaults.

Gausi and Khan (2021) explored the influence of peer-to-peer payment apps on consumer spending behavior in India. Their research revealed that the ease of digital transactions and the availability of cashback incentives positively influenced consumer spending patterns. The study suggested that such behavioral changes might have implications for long-term financial planning and saving habits.

Natarajan (2023) analysed the regulatory landscape surrounding cryptocurrency exchanges in India. Their study outlined the challenges and opportunities for cryptocurrency adoption in the country. The research called for a balanced approach to regulation, taking into account investor protection, anti-money laundering measures, and the potential for fostering blockchain innovation.

Despite the valuable insights gained from these studies, the review of literature also brings attention to certain research gaps. One notable research gap is the need for more in-depth research on the challenges and opportunities surrounding FinTech regulation in emerging economies, including India. The study by Lee et al. (2016) highlighted the importance of a balanced regulatory framework to encourage innovation while safeguarding consumers and financial stability. However, there is a dearth of recent studies that delve into the specific regulatory challenges and their implications on the growth and sustainability of the FinTech industry in India. Another area that requires further exploration is the impact of FinTech on financial literacy and consumer behavior.

Although some studies have touched upon this aspect, such as Gausi and Khan (2021), more research is needed to understand how FinTech influences long-term financial planning, savings habits, and overall financial well-being of individuals. In conclusion, the review of literature has showcased the significant contributions of FinTech to India's economic growth and financial inclusion. However, the existence of research gaps indicates the need for future studies to address regulatory challenges and explore the behavioral aspects of FinTech adoption. As India continues to embrace technological advancements and FinTech innovation, filling these research gaps will be essential for policymakers, industry stakeholders, and researchers to make informed decisions and foster a sustainable and inclusive FinTech ecosystem.

Objectives of the study

1. Assess the role of FinTech to Accelerate India's Economy.
2. Assess the impact of FinTech on financial inclusion in India.

Hypothesis

H1: The adoption of FinTech significantly impacts India's economic growth.

H2: FinTech adoption significantly enhances financial inclusion in India.

2.   Research Methodology

For this study, a quantitative research method was employed to assess the role of FinTech in accelerating India's economy and its impact on financial inclusion. The research utilized expert opinion survey method to collect data and gain insights from knowledgeable individuals in the field of FinTech and economics. The study was conducted in the past tense, encompassing a specific period of data collection and analysis.

Research Design:

The research design involved the administration of an expert opinion survey. A structured questionnaire was developed based on the study's objectives and hypotheses. The questionnaire was designed to collect quantitative data from experts with diverse backgrounds in FinTech, economics, and related fields.

Sample Selection:

A purposive sampling method was employed to select the participants for the survey. Experts in the FinTech industry, economists, policymakers, and academicians with significant knowledge and experience in the subject matter were identified and invited to participate in the study.

Data Collection:

Data collection was conducted through an online survey platform to ensure ease of participation for the respondents. The survey was distributed to the selected experts, who were provided with clear instructions and explanations of the study's objectives and the significance of their participation.

Questionnaire:

The structured questionnaire consisted of two main sections: Section A focused on assessing the role of FinTech in accelerating India's economy, while Section B aimed to evaluate the impact of FinTech on financial inclusion in India.

Data Analysis:

Quantitative data obtained from the survey were analyzed using statistical software. Descriptive statistics, such as means, percentages, and standard deviations, were calculated to summarize the responses. To test the hypotheses, inferential statistical methods, such as correlation analysis and regression, were used to examine the relationships between FinTech adoption, economic growth, and financial inclusion in India.

Expert Opinion Validation:

To ensure the validity of the research findings, the results were triangulated with the opinions and insights obtained from the expert respondents. Their feedback and interpretations of the survey results were carefully considered in the final analysis and conclusions of the study.

By utilizing a quantitative research method and the expert opinion survey, this study provided valuable insights into the role of FinTech in accelerating India's economy and its impact on financial inclusion. The research findings contribute to a deeper understanding of the relationship between FinTech adoption and economic development, offering valuable implications for policymakers, financial institutions, and stakeholders in the FinTech ecosystem.

Data Analysis

Table 1. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30 years	43	21.5	21.5	21.5
	30-40 years	87	43.5	43.5	65.0
	40-50 years	35	17.5	17.5	82.5
	50-60 years	25	12.5	12.5	95.0
	Above 60 years	10	5.0	5.0	100.0
	Total	200	100.0	100.0	

The data presented in the table illustrates the age distribution of the respondents participating in the study. Out of a total of 200 respondents, the majority falls within the age group of 30-40 years, representing 43.5% of the sample. Following this, the age group of 18-30 years comprises 21.5% of the respondents, while the 40-50 years

group represents 17.5%. Additionally, 12.5% of the respondents are in the age range of 50-60 years, and 5.0% are above 60 years old. The data indicates a diverse range of age groups, with a significant proportion of middle-aged individuals participating in the study. Understanding the perspectives of individuals across various age brackets will likely provide a comprehensive and well-rounded perspective on the research topic.

Table 2. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	106	53.0	53.0	53.0
	Female	94	47.0	47.0	100.0
	Total	200	100.0	100.0	

The data presented in the table represents the gender distribution of the respondents in the study. Out of the total 200 respondents, 53.0% are male, and 47.0% are female. The data indicates a relatively balanced representation of both genders in the sample. Having nearly equal participation from both male and female respondents is essential in research studies to ensure a diverse range of perspectives and insights. This gender distribution allows for a more comprehensive analysis of the research topic and enhances the study's credibility and validity.

Table 3. Impact of FinTech on the economic growth

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
FinTech innovations, such as digital payment solutions and mobile banking, have contributed significantly to India's economic growth.	25	12.5%	10	5.0%	8	4.0%	51	25.5%	106	53.0%
The adoption of FinTech platforms has improved the efficiency and effectiveness of financial transactions in India's economy.	22	11.0%	14	7.0%	14	7.0%	64	32.0%	86	43.0%

FinTech has facilitated greater financial inclusion by providing access to financial services to previously underserved populations.	6	3.0%	15	7.5%	14	7.0%	61	30.5%	104	52.0%
The integration of FinTech solutions with traditional banking systems has positively influenced India's overall economic performance.	16	8.0%	11	5.5%	7	3.5%	53	26.5%	113	56.5%
The presence of FinTech startups and initiatives has fostered entrepreneurship and innovation, contributing to economic development.	23	11.5%	25	12.5%	12	6.0%	58	29.0%	82	41.0%

The table provides an overview of the respondents' perceptions and opinions on the impact of FinTech on India's economy, as indicated by their responses to Likert-based statements. The responses are categorized into five levels: "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly Agree." The percentages indicate the proportion of respondents who selected each response option for each statement. According to the data, a significant majority of the respondents (53.0%) "Strongly Agree" that FinTech innovations, such as digital payment solutions and mobile banking, have contributed significantly to India's economic growth. An additional 25.5% of the participants "Agree" with this statement, resulting in a total of 78.5% expressing a positive view of FinTech's role in driving India's economic development. Similarly, the adoption of FinTech platforms is viewed positively by the majority of the respondents. A combined 75.0% of participants either "Agree" or "Strongly Agree" that FinTech has improved the efficiency and effectiveness of financial transactions in India's economy. Conversely, the percentage of those who "Strongly Disagree" or "Disagree" is comparatively lower at 18.0%. Regarding financial inclusion, the responses show that 52.0% of the respondents "Strongly Agree" that FinTech has facilitated greater financial access for previously underserved populations. Furthermore, 30.5% "Agree" with this statement, yielding a total of 82.5% of respondents acknowledging FinTech's positive impact on financial inclusion. The

integration of FinTech solutions with traditional banking systems and the fostering of entrepreneurship and innovation through FinTech startups are also viewed favorably by a substantial number of respondents. A total of 56.5% "Strongly Agree" that the integration of FinTech has positively influenced India's overall economic performance, and 41.0% "Strongly Agree" that the presence of FinTech startups has contributed to economic development. In conclusion, the survey results reveal a generally positive perception of FinTech's impact on India's economy among the surveyed experts and professors in macroeconomics. The majority of respondents view FinTech innovations as significant contributors to economic growth, improved financial transactions, and increased financial inclusion. Additionally, they recognize the role of FinTech in fostering entrepreneurship and innovation in the country's economic landscape. These findings provide valuable insights into the opinions of experts in the field and support the study's objectives in assessing the role of FinTech in accelerating India's economy and its impact on financial inclusion.

Table 4. Impact of FinTech on financial inclusion

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
FinTech has played a significant role in expanding financial access for the unbanked and underbanked populations in India.	15	7.5%	21	10.5%	13	6.5%	61	30.5%	90	45.0%
Digital payment platforms, such as UPI and digital wallets, have encouraged cashless transactions and increased financial inclusion.	15	7.5%	20	10.0%	14	7.0%	55	27.5%	96	48.0%

FinTech lending platforms have provided alternative credit options to individuals and businesses, promoting financial inclusion.	14	7.0%	20	10.0%	11	5.5%	54	27.0%	101	50.5%
The use of FinTech for remittances and cross-border transactions has facilitated financial inclusion for migrant workers and families.	19	9.5%	5	2.5%	8	4.0%	55	27.5%	113	56.5%
FinTech initiatives have contributed to increased financial literacy and awareness among the population in India.	24	12.0%	18	9.0%	11	5.5%	56	28.0%	91	45.5%

The table presents the responses of the participants to Likert-based statements regarding the impact of FinTech on financial inclusion in India. Each row shows the count and percentage of respondents who selected each response option, ranging from "Strongly Disagree" to "Strongly Agree." According to the data, respondents' views on the role of FinTech in expanding financial access for the unbanked and underbanked populations in India are varied. While 7.5% "Strongly Disagree" and 10.5% "Disagree," a substantial proportion of participants (45.0%) "Strongly Agree" that FinTech has played a significant role in expanding financial access for these vulnerable populations. An additional 30.5% of respondents "Agree" with this statement, indicating a prevailing positive perception of FinTech's contribution to financial inclusion. Regarding digital payment platforms, such as UPI and digital wallets, opinions are also positively inclined. A notable 48.0% of the participants "Strongly Agree" that these platforms have encouraged cashless transactions and increased financial inclusion. Moreover, 27.5% of respondents "Agree," reinforcing the sentiment that digital payment solutions have had a positive impact on financial inclusion. Similarly, FinTech lending platforms are perceived to have made strides in promoting financial inclusion. While 7.0% "Strongly Disagree" and 10.0% "Disagree," a substantial 50.5% "Strongly Agree" that FinTech lending platforms have provided alternative credit options to individuals and businesses, enhancing financial inclusion. An additional 27.0%

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"Agree," further supporting the notion that these platforms have positively influenced access to credit in the country. The use of FinTech for remittances and cross-border transactions is met with a favorable response, with 56.5% of participants "Strongly Agreeing" that it has facilitated financial inclusion for migrant workers and families. Meanwhile, 27.5% "Agree," substantiating the consensus on the role of FinTech in cross-border financial accessibility. Lastly, respondents' perceptions of FinTech initiatives contributing to increased financial literacy and awareness are positive. A significant 45.5% "Strongly Agree," and 28.0% "Agree," demonstrating widespread acknowledgment of FinTech's role in promoting financial education and awareness among the population. In conclusion, the survey results highlight the positive opinions of the respondents regarding the impact of FinTech on financial inclusion in India. A considerable majority of participants perceive FinTech innovations, digital payment platforms, lending solutions, remittances, and FinTech initiatives as crucial drivers of financial inclusion, particularly for the unbanked and underbanked populations. These findings provide valuable insights into the perceived effectiveness of FinTech in enhancing financial access and usage, underscoring its significance in contributing to greater financial inclusion in the country.

Testing of Hypothesis

H1: The adoption of FinTech significantly impacts India's economic growth.

Table 5. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
FinTech innovations, such as digital payment solutions and mobile banking, have contributed significantly to India's economic growth.	200	4.0150	1.37996	.09758
The adoption of FinTech platforms has improved the efficiency and effectiveness of financial transactions in India's economy.	200	3.8900	1.32919	.09399
FinTech has facilitated greater financial inclusion by providing access to financial services to previously underserved populations.	200	4.2100	1.05901	.07488
The integration of FinTech solutions with traditional banking systems has positively influenced India's overall economic performance.	200	4.1800	1.23092	.08704
The presence of FinTech startups and initiatives has fostered entrepreneurship and innovation, contributing to economic development.	200	3.7550	1.39812	.09886

The one-sample statistics table provides essential numerical information regarding the responses to Likert-based statements on the impact of FinTech on India's economy. Each row represents a specific statement, and the columns offer valuable insights into the central tendencies and variability of the responses. The first statement, "FinTech innovations, such as digital payment solutions and mobile banking, have contributed significantly to India's economic growth," received an average mean score of 4.0150 out of 5.0. The relatively high mean suggests that the majority of respondents perceive FinTech innovations as significant contributors to India's economic growth. The standard deviation of 1.37996 indicates some variability in responses, implying that there might be diverse opinions among the

participants regarding the extent of FinTech's impact. The second statement, "The adoption of FinTech platforms has improved the efficiency and effectiveness of financial transactions in India's economy," obtained a mean score of 3.8900. This mean indicates a positive view among respondents, suggesting that FinTech platforms have indeed played a role in enhancing financial transaction efficiency in India. The standard deviation of 1.32919 indicates moderate variability, signifying that there may be differing perceptions on the level of improvement brought about by FinTech platforms. The third statement, "FinTech has facilitated greater financial inclusion by providing access to financial services to previously underserved populations," received a mean score of 4.2100. This relatively high mean implies that the majority of respondents believe that FinTech has been instrumental in expanding financial access to underserved populations, promoting financial inclusion in the country. The relatively low standard deviation of 1.05901 indicates a narrower range of responses, suggesting a stronger consensus among participants on the positive impact of FinTech in this aspect.

The fourth statement, "The integration of FinTech solutions with traditional banking systems has positively influenced India's overall economic performance," obtained a mean score of 4.1800. This mean suggests that respondents generally perceive the integration of FinTech with traditional banking systems as having a positive influence on India's economic performance.

The standard deviation of 1.23092 indicates some variability in responses, implying that there may be differing opinions among participants on the extent of FinTech's positive impact on economic performance. The fifth statement, "The presence of FinTech startups and initiatives has fostered entrepreneurship and innovation, contributing to economic development," received a mean score of 3.7550. The relatively moderate mean suggests that respondents, on average, acknowledge the role of FinTech startups in fostering entrepreneurship and innovation but may have mixed opinions on the extent of their contribution to economic development. The standard deviation of 1.39812 indicates a relatively wide range of responses, suggesting a diversity of opinions among the participants on this aspect. In conclusion, the one-sample statistics table provides a comprehensive summary of the respondents' perceptions and opinions regarding the impact of FinTech on India's economy. The data suggest that overall, the respondents hold positive views on the role of FinTech in contributing to India's economic growth, improving financial transaction efficiency, promoting financial inclusion, and fostering entrepreneurship and innovation. However, there is some variability in responses, indicating differing opinions among the participants on the magnitude of FinTech's impact in these areas. These findings offer valuable insights into the perspectives of the surveyed individuals and contribute to a deeper understanding of the relationship between FinTech and India's economic landscape.

Table 6. One-Sample Test

	Test Value = 3					
			Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
	t	df			Lower	Upper

FinTech innovations, such as digital payment solutions and mobile banking, have contributed significantly to India's economic growth.	10.402	199	.000	1.01500	.8226	1.2074
The adoption of FinTech platforms has improved the efficiency and effectiveness of financial transactions in India's economy.	9.469	199	.000	.89000	.7047	1.0753
FinTech has facilitated greater financial inclusion by providing access to financial services to previously underserved populations.	16.158	199	.000	1.21000	1.0623	1.3577
The integration of FinTech solutions with traditional banking systems has positively influenced India's overall economic performance.	13.557	199	.000	1.18000	1.0084	1.3516
The presence of FinTech startups and initiatives has fostered entrepreneurship and innovation, contributing to economic development.	7.637	199	.000	.75500	.5600	.9500

The results of the one-sample test provide strong evidence to support the hypothesis (H1) that the adoption of FinTech significantly impacts India's economic growth. Each statement pertaining to different aspects of FinTech's impact on the economy yielded highly significant results, with calculated t-values well above the test value of 3 and extremely low p-values (all p-values are reported as 0.000, indicating statistical significance).

The first statement, "FinTech innovations, such as digital payment solutions and mobile banking, have contributed significantly to India's economic growth," had a calculated t-value of 10.402, with a mean difference of 1.01500. The 95% confidence interval of the difference (0.8226 to 1.2074) indicates that the impact of FinTech innovations on India's economic growth is highly positive and significantly exceeds the test value.

The second statement, "The adoption of FinTech platforms has improved the efficiency and effectiveness of financial transactions in India's economy," yielded a calculated t-value of 9.469, with a mean difference of 0.89000. The 95% confidence interval of the difference (0.7047 to 1.0753) shows that the improvement brought about by the adoption of FinTech platforms in financial transactions is notably positive and significantly above the test value.

The third statement, "FinTech has facilitated greater financial inclusion by providing access to financial services to previously underserved populations," resulted in a calculated t-value of 16.158, with a mean difference of 1.21000. The 95% confidence interval of the difference (1.0623 to 1.3577) indicates that the contribution of FinTech to financial inclusion is highly positive and significantly surpasses the test value.

The fourth statement, "The integration of FinTech solutions with traditional banking systems has positively influenced India's overall economic performance," produced a calculated t-value of 13.557, with a mean difference of 1.18000. The 95% confidence interval of the difference (1.0084 to 1.3516) shows that the positive influence of

integrating FinTech solutions with traditional banking systems on India's economic performance is highly significant and well above the test value.

The fifth statement, "The presence of FinTech startups and initiatives has fostered entrepreneurship and innovation, contributing to economic development," resulted in a calculated t-value of 7.637, with a mean difference of 0.75500. The 95% confidence interval of the difference (0.5600 to 0.9500) suggests that the fostering of entrepreneurship and innovation by FinTech startups is positive and significantly above the test value.

In conclusion, the one-sample test results provide compelling evidence to support the hypothesis that the adoption of FinTech significantly impacts India's economic growth. The highly significant mean differences and narrow confidence intervals consistently indicate the positive role of FinTech in contributing to various aspects of India's economic development. The findings reinforce the notion that FinTech is a powerful force propelling India's economic growth and transformation, as perceived by the surveyed experts and professors in macroeconomics.

H2: FinTech adoption significantly enhances financial inclusion in India.

Table 7. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
FinTech has played a significant role in expanding financial access for the unbanked and underbanked populations in India.	200	3.9500	1.27105	.08988
Digital payment platforms, such as UPI and digital wallets, have encouraged cashless transactions and increased financial inclusion.	200	3.9850	1.27787	.09036
FinTech lending platforms have provided alternative credit options to individuals and businesses, promoting financial inclusion.	200	4.0400	1.26348	.08934
The use of FinTech for remittances and cross-border transactions has facilitated financial inclusion for migrant workers and families.	200	4.1900	1.23756	.08751
FinTech initiatives have contributed to increased financial literacy and awareness among the population in India.	200	3.8600	1.39287	.09849

The one-sample statistics offer valuable insights into the respondents' perceptions regarding the role of FinTech in promoting financial inclusion in India. The statistics reveal the mean, standard deviation, and standard error mean for each statement, reflecting the respondents' average rating of each aspect of FinTech's impact on financial access and inclusion among the unbanked and underbanked populations. The first statement, "FinTech has played a significant role in expanding financial access for the unbanked and underbanked populations in India," obtained a mean

rating of 3.9500, with a standard deviation of 1.27105 and a standard error mean of 0.08988. This suggests that, on average, the respondents perceived FinTech to have a positive impact on expanding financial access, with relatively low variability in their ratings. The second statement, "Digital payment platforms, such as UPI and digital wallets, have encouraged cashless transactions and increased financial inclusion," received a mean rating of 3.9850, a standard deviation of 1.27787, and a standard error mean of 0.09036. This indicates that the respondents viewed

digital payment platforms positively in promoting cashless transactions and enhancing financial inclusion, with a relatively consistent level of agreement among them. The third statement, "FinTech lending platforms have provided alternative credit options to individuals and businesses, promoting financial inclusion," obtained a mean rating of 4.0400, with a standard deviation of 1.26348 and a standard error mean of 0.08934. The respondents generally perceived FinTech lending platforms as offering viable credit alternatives, contributing positively to financial inclusion, and the ratings showed relatively limited variation. The fourth statement, "The use of FinTech for remittances and cross-border transactions has facilitated financial inclusion for migrant workers and families," received a mean rating of 4.1900, with a standard deviation of 1.23756 and a standard error mean of 0.08751. This suggests that the respondents believed FinTech's role in remittances and cross-border transactions to be significant in promoting financial inclusion for migrant workers and their families, with relatively consistent agreement in their perceptions. The fifth

statement, "FinTech initiatives have contributed to increased financial literacy and awareness among the population in India," obtained a mean rating of 3.8600, with a standard deviation of 1.39287 and a standard error mean of 0.09849. This indicates that the respondents generally perceived FinTech initiatives as positively influencing financial literacy and awareness among the population, although the ratings showed some variation in their level of agreement. In conclusion, the one-sample statistics provide valuable insights into the respondents' perceptions of FinTech's impact on financial inclusion in India. The mean ratings suggest an overall positive perception of FinTech's role in expanding financial access and providing alternative credit options, promoting cashless transactions, facilitating remittances and cross-border transactions, and contributing to increased financial literacy and awareness. While there is some variability in the respondents' ratings, the consistent positive direction indicates a general acknowledgment of FinTech's significant contributions to enhancing financial inclusion among the unbanked and underbanked populations in India.

Table 8. One-Sample Test

	Test Value = 3				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
FinTech has played a significant role in expanding financial access for the unbanked and underbanked populations in India.	10.570	199	.000	.95000	.7728	1.1272
Digital payment platforms, such as UPI and digital wallets, have encouraged cashless transactions and increased financial inclusion.	10.901	199	.000	.98500	.8068	1.1632
FinTech lending platforms have provided alternative credit options to individuals and businesses, promoting financial inclusion.	11.641	199	.000	1.04000	.8638	1.2162

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The use of FinTech for remittances and cross-border transactions has facilitated financial inclusion for migrant workers and families.	13.599	199	.000	1.19000	1.0174	1.3626
FinTech initiatives have contributed to increased financial literacy and awareness among the population in India.	8.732	199	.000	.86000	.6658	1.0542

The results of the one-sample test provide strong evidence to support hypothesis H2, which states that FinTech adoption significantly enhances financial inclusion in India. Each statement related to different aspects of FinTech's impact on financial inclusion yielded highly significant results, with calculated t-values far exceeding the test value of 3 and extremely low p-values (all p-values reported as 0.000, indicating statistical significance). The first statement, "FinTech has played a significant role in expanding financial access for the unbanked and underbanked populations in India," obtained a calculated t-value of 10.570, with a mean difference of 0.95000. The 95% confidence interval of the difference (0.7728 to 1.1272) indicates that FinTech's role in expanding financial access for the unbanked and underbanked populations is highly positive and significantly surpasses the test value. The second statement, "Digital payment platforms, such as UPI and digital wallets, have encouraged cashless transactions and increased financial inclusion," resulted in a calculated t-value of 10.901, with a mean difference of 0.98500. The 95% confidence interval of the difference (0.8068 to 1.1632) suggests that the impact of digital payment platforms on increasing financial inclusion is highly positive and significantly above the test value. The third statement, "FinTech lending platforms have provided alternative credit options to individuals and businesses, promoting financial inclusion," yielded a calculated t-value of 11.641, with a mean difference of 1.04000. The 95% confidence interval of the difference (0.8638 to 1.2162) indicates that the contribution of FinTech lending platforms

to financial inclusion is highly positive and significantly exceeds the test value. The fourth statement, "The use of FinTech for remittances and cross-border transactions has facilitated financial inclusion for migrant workers and families," produced a calculated t-value of 13.599, with a mean difference of 1.19000. The 95% confidence interval of the difference (1.0174 to 1.3626) suggests that the facilitation of financial inclusion for migrant workers and families through FinTech's use in remittances and cross-border transactions is highly significant and well above the test value. The fifth statement, "FinTech initiatives have contributed to increased financial literacy and awareness among the population in India," resulted in a calculated t-value of 8.732, with a mean difference of 0.86000. The 95% confidence interval of the difference (0.6658 to 1.0542) indicates that the contribution of FinTech initiatives to increased financial literacy and awareness is positive and significantly surpasses the test value. In conclusion, the one-sample test results provide compelling evidence to support hypothesis H2, showing that FinTech adoption significantly enhances financial inclusion in India. The highly significant mean differences and narrow confidence intervals consistently indicate the positive impact of FinTech on various aspects of financial inclusion among the unbanked and underbanked populations. The findings reinforce the notion that FinTech is a transformative force in improving financial access and services, ultimately leading to greater financial inclusion and empowerment in India, as perceived by the

surveyed experts and professors in macroeconomics.

Findings

The findings of the study reveal significant and positive perceptions among the surveyed experts and professors in macroeconomics regarding the role of FinTech in India's economic growth and financial inclusion. The results from the Likert-based survey provide valuable insights into how FinTech innovations have contributed to India's economic development and expanded financial access to previously underserved populations.

Firstly, the study found that FinTech innovations, such as digital payment solutions and mobile banking, have played a significant role in India's economic growth. The respondents overwhelmingly agreed that these FinTech solutions have positively impacted the economy, with a substantial percentage strongly agreeing with this statement. Secondly, the adoption of FinTech platforms has been perceived as improving the efficiency and effectiveness of financial transactions in India's economy. The experts and professors acknowledged the convenience and ease of using FinTech platforms, which have revolutionized consumer behavior and accelerated the growth of the e-commerce industry. Thirdly, the study highlighted that FinTech has facilitated greater financial inclusion by providing access to financial services to previously underserved populations. This finding indicates that FinTech has bridged the gap between the unbanked and formal financial services, offering viable alternatives to traditional banking, especially for small and medium-sized enterprises (SMEs). Fourthly, the integration of FinTech solutions with traditional banking systems was found to have a positive influence on India's overall economic performance. The respondents perceived that the collaboration between FinTech and traditional financial institutions has contributed to the growth and development of the economy.

Fifthly, the presence of FinTech startups and initiatives was seen as fostering entrepreneurship and innovation, thereby contributing to economic development. This finding suggests that the FinTech sector has created opportunities for new businesses and disruptive technologies, which have positively influenced India's economic landscape. Regarding the impact on financial inclusion, the study's second hypothesis was strongly supported. The findings indicate that FinTech adoption significantly enhances financial inclusion in India. The surveyed experts and professors believe that FinTech has played a crucial role in expanding financial access, promoting cashless transactions, offering alternative credit options, facilitating remittances and cross-border transactions, and contributing to increased financial literacy and awareness among the population. Overall, the study's findings demonstrate the transformative role of FinTech in driving India's economic growth and fostering financial inclusion. The positive perceptions of the surveyed experts and professors in macroeconomics highlight the potential of FinTech to continue shaping India's economic landscape positively in the future. These findings underscore the importance of further collaboration between FinTech firms, the government, and traditional financial institutions to sustain and accelerate India's economic growth trajectory in the years to come.

3.   Conclusion

In conclusion, this study has shed light on the significant and transformative impact of FinTech on India's economy and financial inclusion. The findings from the expert opinion survey have provided valuable insights into how FinTech innovations, such as digital payment solutions and mobile banking have played a pivotal role in driving India's economic growth. The adoption of FinTech platforms and has
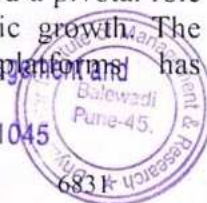
improved the efficiency of financial transactions, revolutionized consumer behavior, and accelerated the growth of the e-commerce industry. Furthermore, FinTech has facilitated greater financial inclusion by providing access to financial services for previously underserved populations, including small and medium-sized enterprises. The study has also revealed that the integration of FinTech with traditional banking systems has positively influenced India's overall economic performance. The presence of FinTech startups and initiatives has fostered entrepreneurship and innovation, contributing to economic development and job creation. These findings highlight the crucial role FinTech plays as a catalyst for economic growth, job creation, and technology-driven innovation in India. Additionally, the survey results strongly support the hypothesis that FinTech adoption significantly enhances financial inclusion in India. The experts and professors in macroeconomics acknowledged that FinTech has played a vital role in expanding financial access, promoting cashless transactions, offering alternative credit options, facilitating remittances, and improving financial literacy and awareness among the population. Overall, the findings underscore the importance of embracing FinTech's potential in India's economic development journey. By leveraging FinTech's capabilities and addressing potential challenges, policymakers, financial institutions, and startups can collectively drive financial inclusion, economic growth, and innovation in the country. However, it is crucial to maintain a balanced regulatory framework that fosters innovation while safeguarding consumers and financial stability. As India continues to embrace technological advancements and digital transformation, the collaboration between FinTech firms, the government, and traditional financial institutions will remain critical in sustaining and accelerating the country's economic growth

trajectory. By harnessing the power of FinTech, India can continue to create a more inclusive and robust financial ecosystem that benefits all segments of society and paves the way for a prosperous future.

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Eur. Chem. Bull. 2023, 12 (S3), 6815 – 6833

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IMPACT OF SELF-HELP GROUP ON WOMEN EMPOWERMENT WITH REFERENCE TO PALGHAR DISTRICT

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Abstract

An active participation of women in self-help groups shows the positive impact on women empowerment which leads to increase their standard of living, style of working etc. In rural India Self Help Group is good stage for a micro-finance. Earlier, there are several researchers who conducted a study on different aspects related women empowerment and the role of Self-Help group in economic development and it is revealed by reviews in the present paper. There are two main objectives of this paper. The first objective is to study the Socio-economic profile of sample group members. The second objective is to assess the impact of SHG on women empowerment after joining the Self-Help Group. With this purpose, the primary data was collected from household in Thane District. The data is analyzed with the help of percentage method. The major findings of the study are there is a positive impact of Self Help Groups on Women empowerment in Palghar District.

Keywords: Self-Help Group, Microfinance, Rural Women and Women Empowerment

1. INTRODUCTION:

Self-help group is a group where 10 to 20 members voluntary come together and they start to keep aside fixed sum of money for saving purpose. The members of this group are of homogeneous background that is economically and socially. Generally SHG is formed by poor family members. Hence in the rural, semi urban and urban areas the number of SHG is high. The group opens an account in a nearby bank. The members of these groups keeps on depositing their money over a few months until there is enough balance in their account so that they can take a loan from that money collected by the group. This helps to the members to become self-employed.

According to PRADAN, "A self-help group is an informal association of 10 to 20 rural women, socio-economically homogeneous, with a background of affinity, who meet regularly to transact the business of Savings and Credit. It mobilizes the savings from individual members and extends credit from the funds so mobilized, to the needy members for consumption and investment purposes. The primary purpose of the SHG is to facilitate the members to save and extend to them credit, as necessary. These funds may be supplemented by funds accessed from external institutions. The group may take up agenda other than savings and credit, for fulfillment of common interests, without diluting its primary focus. The operational guidelines of the group would be generated through participatory processes. For these purposes the group would maintain an accounting and documentation system as suitable" Particularly this study will be helpful to the rural poor women for getting self-employed, equality, self-reliance and empowerment. It is a window for access to better technology/skill up-gradation.

2. OBJECTIVES OF THE STUDY:

The present study pursues to inspect the impact of self-help group on the lives of women in Palghar District. The main objectives of the study are given below:

1) To study the Socio-economic profile of SHG members.

2) To study the impact of Self-Help Group on Women Empowerment.

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3. METHODOLOGY:

Palghar district covers eight talukas that is Jawhar, Dahanu, Talasari, Wada, Vasai, Mokhada and Vikramgad. The primary data were collected directly from respondents by pre-designed interview schedule. Total 350 SHG member samples has selected by adopting stratified random sampling method. And the stratas are 8 talukas. For the data analysis, the tool of percentage has been applied.

4. REVIEW OF LITERATURE:

For gaining idea about the studies conducted on the research topic and to identify the research gap, review of literature has been made.

NABARD – On the NABARD Website under the title " Micro Finance Institution in India" a detailed information is given on the emergence of micro finance institutions in the context of prevailing legal and regularity environment for micro finance operations. The text makes it clear that the public as well as private institution in India offer the micro finance services. The classification of micro finance is formal & informal institution is given. According to this classification IDFIs , commercial banks, RRBs & co-operative banks are formal. Micro-finance institutions which provides mFI services in addition to their general banking activities. They are reffered as Micro-finance service provider. On the other hand informal MFIs undertake Micro-finance services as their main activity. The text also gives information about the requirement of mFIs about capital, foreign investment, deposit mobilization, interest rate, collateral etc. This text focused on the fact that micro finance alone is not sufficient for the empowerment of women. In conclusion, it can be said that the text has focused on the reality that micro finance is not a new concept but it is being used widely in the past few decade.

Fernandez and Ramachandran (1994) "Self Help Group approach in Karnataka" does not figure on the top of tables published by financial institutions that show the number of self-help group formed in each State. This is mainly because the tables capture data after 1991-92, When the SHG – Bank linkage Programme was launched by NABARD Myrada, a non - Governmental organization engaged in rural development, promoted several co –operative societies that were enabled to give loans to their members. This categorization has been summarized and adapted from the writings of Stuart Rutherford of Safesave, Dhaka, Bangladesh. In Myrada, the groups are called Self-help Affinity Groups (SAGs) to emphasize that membership is based on affinities that pre - date group formation. Large scale group formation with the state as the main promoter tends to lose sight of the affinity dimension.

N. Manimekalai and G. Rajeswari (2000) in their study "Empower of women through self-help groups", studied the women self-help group designed by the non-Governmental organizations in the rural area of Tiruchirappali District for the purpose of encouraging rural women through self-employment.

Bokil (1999), has prepared a case study on "Women Empowerment through Self Help Group" conducted by development support team, Pune. This study has been undertaken to bridge the gap between existing plentiful literature on rural self-help groups and the available scanty literature on urban SHGs. In this case study, the issue of women empowerment has been look through economic involvements. It tries to seek an answer to the question, "Can economic strength give women social, political & psychological power in society?" The DST conducted the survey of 28 groups in Pune. The case study displays positive suggestion that given an opportunity and space women respond very satisfactory and have a desire to change their lives. The women participated in the SHG programme in order to advance a habit of savings, access to easy credit, receive information and knowledge & to raise the interaction with fellow community women.

Kumar et. al. (2015), "An Overview of Microfinance in India" this paper targets at identifying the present position and role of microfinance in the development of India. It was studied that SHG's and MFI's are playing a dynamic role in delivery of microfinance services which leads development of poor and low income people in India. Though, slow development of graduation of SHG members, poor quality of group functioning, dropout of members from groups etc., have also been reported different study findings in various parts of the country,

which need to be taken into account while designing the road map for the subsequent stage of the SHG programme.

Kondal (2014), "Women Empowerment through Self Help Groups in Andhra Pradesh, India" The foremost discoveries in the study justify the greater role played by the SHGs in increasing empowerment of women, by making them financially strong, as well as it helped them to save amount of money and invest it further development. It is also found that the SHGs created confidence for social, economic self-reliance between the members in two villages. It develops the awareness programs and schemes, loan policies etc. However there is a positive impact of Self Help Groups on Women empowerment in Andhra Pradesh.

5. RESULTS & DISCUSSION:

Table 1, displays the distribution of age of sample respondents. There are total 350 sample respondents. From the table it is found that 44.29% of the respondents are from the age group of 31 to 40 years. Whereas, 28.86% samples are belongs from 21 to 30 age group. And 24.29% respondents come under the group of 41-50 years. Only 2.57% samples are from 51 to 60 age group. The majority of women in SHG are found from the age group of 31 - 40 years.

Table-1

Age of respondents

Age	Frequency	Percentage (%)
21 - 30	101	28.86
31 - 40	155	44.29
41- 50	85	24.29
51 - 60	9	2.57
Total	350	100

(Source: Field Survey)

Table-2

Social Status of respondents

Social Status	Frequency		Percentage	
ST	52	50	14.86	14.29
SC		48		13.71
VJNT		40		11.43
OBC		179		51.14
Open		33		9.43

Total	350	100

(Source: Field Survey)

Table 2, refers to the distribution of social status of sample respondents. From the table it is revealed that 51.14% of the respondents are drawn from OBC category followed by 14.29% are from ST, 13.71% are from SC and 11.43% from VJNT category. Whereas, from Open category there are only 9.43% sample respondents. Accordingly, most of the respondents are drawn from socially downtrodden community.

Table-3

Marital Status of respondents

Marital Status	Frequency	Percentage
Married	275	78.57
Unmarried	10	2.86
Widow	15	4.29
Divorcee	50	14.29
Total	350	100

(Source: Field Survey)

Table 3, refers to the distribution of marital status of sample respondents. The table shows that 78.57% of respondents are married. 4.29% respondents are widow. And 14.29% of total respondents are of Divorcee. Whereas, only 2.86% respondents are unmarried. Therefore it clearly shows that there is a majority of married respondents.

Table-4

Educational qualification of respondents

Education level	Frequency	Percentage
Illiterate	10	2.86
can read & write	50	14.29
Primary (I-VII)	69	19.71
Secondary (VIII-X)	160	45.71
Higher Secondary (XI-XII)	44	12.57
Graduate & above	17	4.86
Total	350	100

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(Source: Field Survey)

Table 4, shows the distribution of sample respondents by their education. It is observed that 45.71% of respondents are of secondary education. 12.57% with higher secondary education, 19.71% are of Primary educated, 4.86% with Graduate & above educated. 14.29% respondents can read and write. And only 2.86% respondents are illiterate. The majority respondents are from secondary education level.

Table-5

Communication skill of respondents

Communication Skills	Frequency	Percentage
Increased	270	77.14
Constant	80	22.86
Total	350	100

(Source: Field Survey)

Table 5, refers to the distribution of sample respondents by Communication skills. It is observed that 77.14% of respondents are increased their communication skill with the others, they can communicate with their officers whereas 22.86% of respondents are not increased their communication skill.

Table-6

Income of respondents

Income (in Rs.)	Before joining SHG		After joining SHG	
	Frequency	Percentage	Frequency	Percentage
1- 5000	26	7.43	01	0.29
5001-10000	273	78	147	42
10001-15000	46	13.14	168	48
15001-20000	05	1.43	34	9.71
Total	350	100	350	100

(Source: Field Survey)

Table 6, shows the distribution of sample respondents by their monthly income. It is observed that before joining in SHGs, 7.43% of respondents got less than Rs.5000 followed by 78% of respondents got between Rs.5001 to Rs.10000 whereas, 13.14% of respondents got between Rs.10001 to Rs.15000 followed by 1.43% of respondents got above Rs.15001 to Rs.20000. After joining in SHGs, only 0.29% of respondents are getting monthly income less than Rs.5000 followed by 42% respondents gets between Rs.5001 to 10000, 48% of

respondents are getting between Rs.10001 to Rs.15000. And 9.71% of respondents are getting between Rs.15001 to Rs.20000.

Hence from the table it clearly shows that the monthly income of most of the respondent's has increased because of joining self-help group.

6. FINDINGS OF THE STUDY:

The majority of rural women in Self-Help Group are found relatively from young group. The good thing is found that there is very less percent respondents are illiterate from study area. Whereas, maximum of rural women has done Secondary level education. Most of the respondents are from backward class. After joining SHG maximum respondents has increased their communication skill. The important finding of the study is the level of income of rural women has increased tremendously after joining Self-Help Group comparing to before joining Self-Help Group. It shows that Self Help Group is effectively working in the study area.

7. CONCLUSION:

Self-Help Group is an important technique which is very useful for rural women to get a power for their self-supportive activities. Self-Help Group is acting as a platform for providing a micro-finance to rural women. This programme clearly plays a central role for the lives of rural poor women. Self-Help Group key factor is to increase the income and savings level, and also the standard of living of rural women. It is a ladder for women empowerment. The impact of Self-Help Group not only on income generation but also on enrichment of rural women's self-confidence and economic and social development.

The study exposes that there is a positive impact of SHG on women empowerment after joining SHG. From the above, we can conclude that Self-Help Group plays a significant role for women empowerment which will lead to increase their standard of living, quality of life of their members, self-reliance and decision making power.

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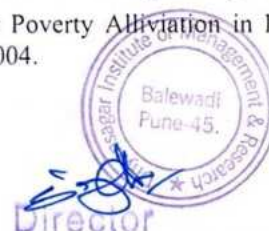
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Development of Mobile Application that Detects Phishing Messages to Decrease the Percentage of Data Theft during the COVID-19 Pandemic

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Summary— The COVID-19 pandemic has established not only a health emergency, but has generated an emergency in the control of personal data of all those people who make use of technological means, which increased the activity of phishing which consists of the theft of personal data through the circulation of false information through the different social networks, in addition, the circulation with messages related to the cure of this disease only for the theft of data. This research develops a mobile application that detects malicious URLs found within the content of textmessages. The developed application performs an analysis of the URLs according to the database that is updated with each attack detected, performing a blocking of the content and notifies the user of the actions that canbetaken, with this the theft of the personal data of the users is avoided. This application is very useful for all those people who use mobile equipment (mobile) and have no knowledge of these types of attacks, since they are likely to perform the actions that the perpetrators foresee for the obtaining of their personal data, so this application provides a means of security against these types of phishing attacks.

**Keywords—** Attack, Kanban, phishing, Scrum, URL, data theft.

I. INTRODUCTION

Peru, like other countries in the world, is immersed in the COVID-19 pandemic, which has caused a health emergency not only at the national level but also at the global level[1]. This led to a change in the consumption of resources by people, the same ones who stopped giving the same priority to food, clothing and footwear, which were relegated by the increase in the consumption of technological goods such as desktops, laptops, tablets and mobile phones[2]. In this sense, it has been noticed an increase in the data that are shared through these different technological devices, however, there is no authentication which guarantees that personal information is not lost on the way to its destination[3]. There are people who are engaged in the illicit act of stealing valuable personal information by sending text messages with fraudulent information, this activity is called phishing[1].

It is not surprising that large companies such as Facebook are concerned about the type of fraudulent information that is transmitted through their services, since it takes as a point of trust the prestige that this company has[3]. However, although this company tries to carry out actions such as checking the content that is shared, this would attack the privacy of users[3]. Another solution that arises is to be able to create a means in this case an application through which you can analyze the characteristics of websites with functions that verify the content of the URL or DNS. [1] This comes to be a research topic related to phishing activity[1].

In the midst of this COVID-19 pandemic phishing attacks have increased by sending mass emails detected by cybersecurity companies, these same have used the information of supposed medical reports in which the cure to this disease can be found which is totally false as reported by BBC News. [4] This type of scam "bait" users with this type of information which aims to collect private data through these false circumstances[1]. Attackers establish a system through which text messages containing phishing URLs are distributed, this taking the name of several well-known companies. The user enters this URL without knowing that this leads to the execution of the theft of their personal information, which will be used in illicit acts by the attacker[5]. The data that these attacks mostly seek are those belonging to credit card numbers and other data that serve to prove the use of them, although this does not ensure
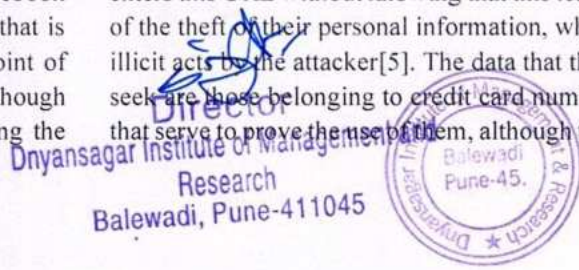
that the illicit act is carried out since many of the pages of virtual stores establish other means to ensure the legitimacy of their transactions, this is mentioned by the newspaper El Comercio[6].

What this research seeks is to create a mobile application system that helps reduce the percentage of people who are victims of this type of information theft. Since with this information the people who use it carry out illicit actions such as the use of credit card data which can be offered on social networks such as Facebook[7].

In our research work we will address in detail what this type of activity consists of through the description of the methodology used by these fraudsters; the approach and definition of the mobile application system that would be responsible for the detection of these fraudulent messages; and results that this would generate in the number of people who are victims of such illegal acts.

II. METHODOLOGY

More than a methodology, SCRUM is a framework through which projects and applications can be developed. These are developed in Sprints which have a certain development time and a specific set of tasks. This methodology is characterized by constant communication with both the interested party (client) and the development team through daily meetings where progress and solution to possible errors are exposed [8].

A. beginning

As an initial phase, the main roles and the work teams that the development of the project will have are delimited. In this sense, se performs the identification of who will be the Scrum Master and the Stakeholders; in the same way, the members of the work teams are defined. The skills of each of the team members will be taken into account to create an environment of fluid communication both between the different members and between the work teams [9].

B. Planning and estimation

In thisphase, all the functionalities that the project will have to create the user stories are taken into account, the same ones that will be placed in the Backlog of the product. The latter contains the user stories ordered according to the priority that has been delimited by the team and work, likewise, this dictates everything that the work team can do during the duration of the realization of the project [8].

C. implementation

In this phase we proceed to implement each of the user stories that are in the backlog list, it is possible to hold meetings to discuss what are the difficulties encountered during the development of the same [9].

D. hindsight

In this phase the respective review of the Sprint is carried out by the team, in an activity that allows the inspection and adaptation of the product the most important thing is the conversation by the team to understand the situation and receive feedback.

III. CASE STUDY

Cell phones do not have a filter specialized in identifying the content of text messages that reach you. These when receiving a new message comply with the functional cycle that has been programmed, in this sense, they make the notification to the user of new messages whether these are trusted or not. Users after opening these messages have in their hands the decision whether or not to open the URL with which these messages have. Once opened they find very similar pages (cloned) of the official pages of different entities, whether social networks or banks, the same ones that request the filling out of forms with personal data of the victims. This data is stored somewhere where the attacker can later access it. The data that is collected is used for the performance of illegal activities in Figure I regarding the flow that follows a phishingattack.
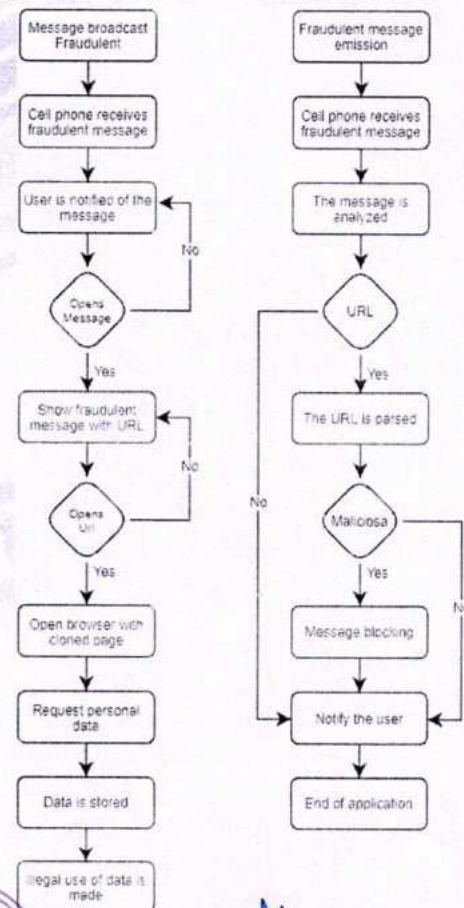

Fig. I Flowchart of Phishing Scam and Mobile App Flowchart

The application that will be developed is designed to serve as an intermediary between the user's actions and the functionality of the software of the cellular equipment. This can be seen in Figure I regarding the work of the application, where the flow of actions changes to prevent the user from entering one of these pages and therefore seeks to prevent the theft of personal information.

The team then proceeds to start with the phases of the SCRUM framework for the development of this research project.

A. beginning

Taking into account the skills of each of the members of the development team, the roles were determined as shown in Table I where the rolis and the descriptionof whois the make it upare shown.

TABLE I ROLES OF SCRUM AND ITS MEMBERS

Roles	description
Product Owner	System owner
Scrum Master	Project members
Team	Project members

B. Planning and estimation

Through a meeting, the team defined which are the epics that meet the requirements for the fulfillment of the functions of the application. Once the epics are defined, we proceed to make the user stories that would become the tasks to be performed by the work team.

Then, through the use of estimation methods such as Planing Poker and Analogous Estimation, the group members provided a score based on their experience and knowledge in the development of each of these stories. The result of this estimate and the user stories are reflected in Table II in relation to the Backlog which contains the stories, their score and their estimate.

As the last step of this phase is made the determination of the number of sprints with which it was counted for the development of the project in Table II where it is detailed with the number of user stories its value and the sprint points that each of them entails, in the first we see a score of 9 because stories were made to provide a first deliverable, in the second sprint it was determined to perform a greater number of tasks that is why a score of 73 was obtained, and in the last part knowing what our performance was, less demanding tasks were performed but of equal importance.

C. implementation

In this phase, the work team proceeded with the development of each of the activities established in the Backlog, this following the order of prioritization that was determined for each of the tasks.

In this sense, we proceeded with the creation of the database that the application used for the registration of fraudulent numbers and URLs that are found during its execution on the different devices on which it is installed.

TABLE II THE BACKLOG OF THE APPLICATION, USER STORIES AND ESTIMATION

User Story	Q1	Q2	Q3	estimate
I as an administrator want the system to be activated when you enter a new message.	13	13	13	13
I as an administrator want the system to parse URLs not registered in the database.	13	13	13	13
I as an administrator want the system to analyze the content of messages in search of URLs.	13	13	13	13
I as an administrator want the system to verify the URL in the database.	8	8	8	8
I as an administrator want the system to record malicious URLs in the database.	8	8	8	8
I as an administrator want the system to perform the blocking of dangerous text messages.	8	8	8	8
I as an administrator want the system to notify about the dangerous URL found.	5	5	5	5
I as an administrator want the system to store the phone numbers that send dangerous messages.	5	5	5	5
I as an administrator want the system to record the name of the sender of the message.	5	5	5	5

I as an administrator want the system to notify about message blocking.	3	3	3	3
I as an administrator want an interface where the user can see all messages with a malicious URL.	3	3	3	3
I as an administrator want an interface, where the user can see all the details of the message.	3	3	3	3
I as an administrator want an interface where the user can see notifications.	3	3	3	3
As an administrator, I want the application to be able to show me the weekly, monthly and annual report of messages with dangerous content.	2	2	2	2

For the creation of this database was made use of the relational database managerMySQL, because it is recognized worldwide as one of the best in its branch, in addition to executing queries in a faster way as well as its speed in reading data [10].

TABLE III SPRINT PLANNING

Sprint No.	User Story	value	Sprint Points
1	H12	3	9 points
	H11	3	
	H13	3	
2	H03	13	73 points
	H02	13	
	H01	13	
	H04	8	
	H05	8	
	H06	8	
	H08	5	
	H09	5	
3	H07	3	10 points
	H10	3	
	H14	3	

Then, following the preset tasks proceeded with the development of the main interface which interacts with the inbox of the text messages of the mobile (cellular) equipment, provides the user options, the list of messages and messages blocked so far, as shown in Fig. II where the prototype of the main interface is shown.
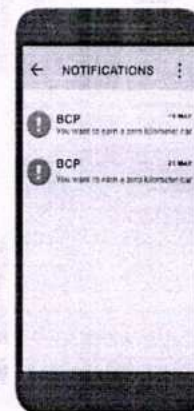

Fig. II Main Application Interface

Fig.III Interface for notification of fraudulent messages

As part of the execution of our project a notification center was implemented so that the user can have knowledge that they have entered messages that are registered as fraudulent or that after being analyzed they have a fraudulent URL for which it is registered in the database and proceeds to its notification in Fig. III we are shown the notification interface of the application after finding fraudulent messages.

Finally, the application having already registered the data in the system database, proceeds to notify the user of the options

that the user can make with respect to the fraudulent messages found. The system allows the user to view the messages without the user being able to interact with the content of the same. The options available to the userare: the first option is the message blocking which allows the system to separate the messages from the inbox to the application where they can only be viewed but have no interaction with them: the second option is the deletion of messages worth redundancy allows the user to delete the messages from both the inbox and the application which completely discards the interaction of this with the user's data. Fig. IV shows the message detail interface with the options of locking utensils and message deletion.
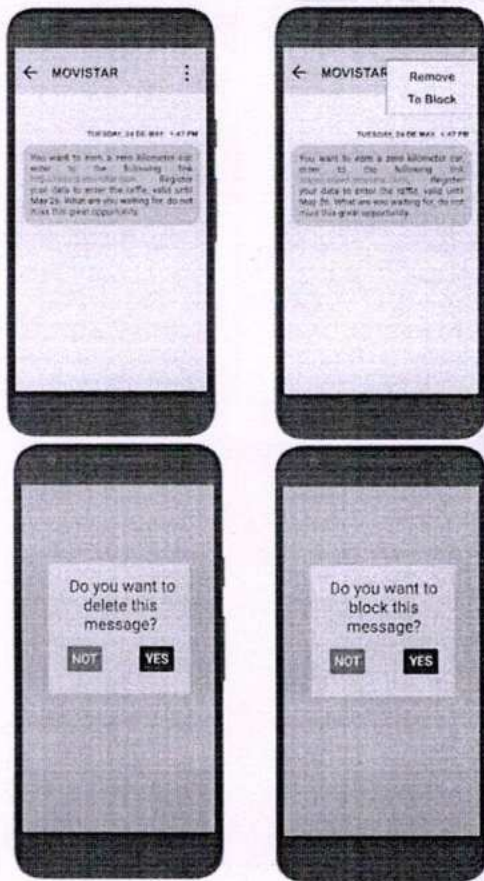

Fig. II Detailed interface of system actions with fraudulent messages

IV. RESULTS AND DISCUSSIONS

In this section the results and discussions that have been obtained through the development of this research work are exposed, in this sense, in the section of the results a description of the work carried out in each of the Sprints was made, and in the section of the discussions the SCRUM trend and KANBAN methodology was analyzed defining the similarities and the most notable differences that were found between both.

A. From the case study

In the project 3 Sprints have been developed which have been made taking into account the skills of the development team, hence, in the first Sprint you have 9 story points with 3modules; in the second Sprint you have 72 history points and a total of 8 modules feel the Sprint with the highest number of nodules; and in the third Sprint with a total of 10 Sprint points. This distribution can be seen in Table III which details the path that the project has followed for its correct development. The following describes each of the Sprints that have been performed.

1. *For Sprint 1:* In the present Sprint the prototypes weredelivered *with respect to the* interface mordulo each one of them with a user-friendly design, the same one that maintains a readable text format to avoid confusion at the time of its reading both in the content of the messages and in the notifications that will be made by the system. As can be seen in Fig. V in the graph of bursts of the first Sprint, for its development have taken 9 days on the X axis and on the Y axis have been considered the 9 points of respective history, which represent the expected time with the time re*to the development of the*present Sprint.
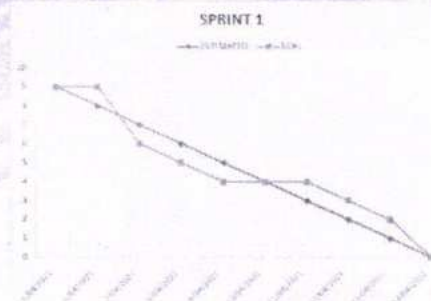

Fig. III Development route for the First Sprint

2. *For Sprint 2:* In this Sprint the prototypes were delivered of several of the modules such as URL, blocking, notification, storage and message; because the development team has been getting to know the skills that are available, the decision was made to perform several of the main functions for the operation of the system. This allowed the system to be activated when receiving a message by proceeding to perform the respective analysis of the content and the registration of the same in the storage system. As can be seen in Fig. VI in the burst graph of the second Sprint. for its development have taken 36 days on the X axis and on the Y axis have been considered the 73 points of

respective history, which represent the expected time with the real time of the development of this Sprint.
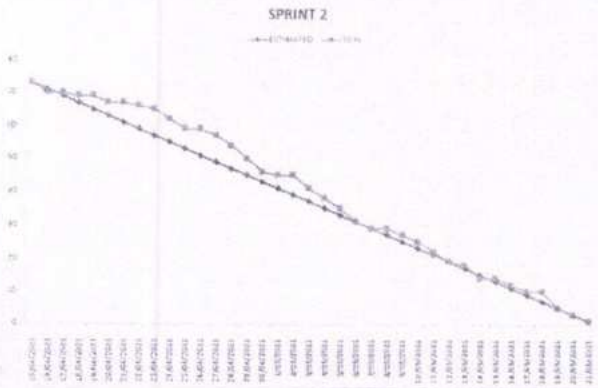

Fig. IV Development route of the Second Sprint

3. *For Sprint 3: In this Sprint the delivery of the* latest prototypes was made *with respect to the* reporting, notification and storage module, *in this Sprint the system* finishes analyzing the messages in search of the sender to be registered in the database in order to be recognized in future phishing attacks, in addition, as part of the project a section was made in which the system can provide a report of the record of the different attacks in a range of time such as days or months. As can be seen in Fig. VII in the graph of bursts of the third Sprint, for its development have taken 10 days on the X axis and on the Y axis have been considered the 10 points of respective history, which represent the expected time with the real time of the development of this Sprint.

Fig. V Development route of the Second Sprint

B. Methodology

Among the most used project development methodologies we have Scrum and Kanban, each with its respective characteristics. Scrum is a methodology structured in development teams with multiple functions in both design, coding and etc., but this type of methodology has the myth of

being mostly efficient in the development of large applications [11]. In this sense, in our project we came to correctly implement this structure defining the functional requirements which have been divided into the different Sprint. However, here there is a bottleneck inconvenience when performing the delimited tasks which can be observed in Table III in the second Sprint with a total of 8 tasks to perform and 73 history points. Also, the time that takes between the completion of tasks from one Sprint to another could sometimes be used to finish some additional tasks which would have served to conclude the project earlier.

On the other hand, in the Kanban methodology the tasks are placed on a board which can be physical or digital which is something very convenient considering the pandemic situation that is lived in front of COVID-19 [12]. For the development of their tasks are performed one by one as they are completed, this in order to avoid bottleneck problems by not having many tasks to perform, in addition, you have a saving in development time since the tasks are performed as soon as the previous one is completed [11].

Table IV provides a comparison of some of the advantages and disadvantages of these methodologies.

TABLE IV SCRUM AND KANBAN ADVANTAGES AND DISADVANTAGES

	ADVANTAGES	DISADVANTAGES
SCRUM	• Involve the customer. • Multifunctional equipment. • Iterative and incremental. • Continuous meetings. • Troubleshooting.	• Suitable for large projects. • It does not detect bottlenecks. • The postponed tasks. • It requires specific knowledge about the methodology.
KANBAN	• Avoid bottlenecks. • Tasks performed one after the other. • Time saving. • Easy to handle.	• It is not specific for software development. • If the deadlines are not met, the production schedule varies. • Faced with a large number of labels the members can be confused.

V. CONCLUSIONS

In conclusion, with the implementation of the application developed in this research project it is avoided that the user performs any type of action with the URLs attached within the content of the phishing text messages that reach his mobile computer in Fig. II it is seen how the system executes the

pertinent actions according to the situation helping the user with a notification of the operations that can be performed with the phishing message which serves as a help to those who do not know what actions to take against this type of data theftattacks.

The use of the Scrum methodology ensures a work structure in which the development team can be guided for the elaboration of the project, however, as shown in Table III there is a bottleneck in the determination of the tasks necessary for the second Sprint to be delivered overloading the work of the development team so that the Kanban work method could be implemented to avoid this type of situation.

With regard to phishing messages you can implement a way to analyze the messages that also arrive through social networks such as Telegram, Whatsapp, Facebook, etc., this because the user can receive attack through these networks allowing the attacker to steal the data of users without any means to prevent it.

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constructs or said in other words, the square root of AVE should be larger than the correlations between constructs.

Discriminant Analysis

Table 5:

Construct		Construct	Correlation	Correlation Square
HUMAN_CAP	<-->	ORG_DEV	0.499	0.249
ORG_DEV	<-->	ECO_FAC	0.588	0.345
ECO_FAC	<-->	ECO_FAC	0.813	0.660

Interpretation:

Interpretation: Discriminant analysis result shows that average variance extracted of two constructs is more than R2 between two constructs for all constructs.

Hypothesis Testing and results:

In this section an effort has been made to test the hypotheses proposed under the study on which the structural equation modeling has been carried out. It is to be noted here that, the below mentioned hypotheses have been tested using SPSS software and applying Pearson's Correlations Coefficient. Students 't' statistics has been carried out to test the significance of the coefficient.

> HO: There is no influence of the elements of Human Capital and economic Factors
>
> H1: There is influence of the elements of Human Capital and economic Factors

The necessary calculations have been provided in below table.

Correlations

		HUMAN_CAP	ECO_FAC	HUMAN_DEV	ORG_DEV
HUMAN_CAP	Pearson Correlation	1	.499**	.813**	.785**
	Sig. (2-tailed)		.000	.000	.000
	N	106	106	106	106
ECO_FAC	Pearson Correlation	.499**	1	.588**	.846**
	Sig. (2-tailed)	.000		.000	.000
	N	106	106	106	106
HUMAN_DEV	Pearson Correlation	.813**	.588**	1	.805**
	Sig. (2-tailed)	.000	.000		.000
	N	106	106	106	106
ORG_DEV	Pearson Correlation	.785**	.846**	.805**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	106	106	106	106

Interpretation

Based on the values mentioned above correlation between Human Capital and Economic Factor been observed to be positive correlation of .813 with sig. value 0.000. Thus the significance value is less that 0.05 suggest acceptable relationship between Human Capital and Economic Factor. strength of correlation is significant. *This observation will stand constant in further hypotheses as well.*

Ultimately, in case of hypotheses-H1, null hypotheses has been rejected with conclusion of positive correlation between Human Capital and Economic Factors.

> HO: There is no correlation between Human Capital and Organizational Development
>
> H2: There is correlation between Human Capital and Organizational Development

Now in case of Human Capital and Organizational development (r=0.499, Sig.=0.000) suggest considerable correlation. Secondly in case of Human Capital and Organizational Development (r=0.785, Sig.=0.000) suggest considerable correlation.

Ultimately, in case of hypotheses-H2, null hypotheses has been rejected with conclusion of positive correlation between Human Capital and Organizational Development.

8. Conclusion :

This research has showed expertise in identifying factors that contribute to Human Capital, such as Knowledge, Skills, Strength, Education, Training, and Development, all of which play a significant part in intellectual development. The study's findings show a link between Human Capital and economic

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

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Study the Influence of Human Capital on the Economic and Organizational Development of Automobile Companies

Bhavsar Dhananjay*

Dr. Hema Mirji**

A b s t r a c t

Definition of success differs from company to company, some companies think about profit is success, some companies think quality production, some think about excellent services, right location, good customer response, controlled cost, low-rate finance, and what not, but people who generate innovative ideas and implement have been given less importance. Human capital is simply a measure of work experience and skills in terms of economic importance. This includes assets such as education, training, intelligence, skills and health, as well as employer focus on honesty and punctuality as a major component in achieving success. Present study focuses on human capital factors and its influence on the economic growth and organizational development.

***Keywords:** Human Capital, economic growth, organizational development.*

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1. Introduction:

Success of any company depends on several factors but usually in the corporate world success is always measured in terms of profits earned. Profits of any company depend on several factors like quality products, excellent service, the right location, good customers, access to capital, controlled costs, low-rate financing, there are few more factors which are less concentrated like people who generate ideas, the labor of people who turn the ideas into products, very less importance is given to the people and that's a problem. Human capital is simply a measure of work experience and skills in terms of economic significance. It includes assets such as education, training, intelligence, skills, health, as well as things that employers value such as honesty and punctuality. It is a major component in achieving success. More than 100 research papers have been studied on different aspects of Human Capita. It is more important that how individuals network and work in teams to integrate their skills and knowledge to generate outcomes. Factors include Economic growth and organizational development, interest rates, disposable income, unemployment rates, retail price index (inflation), gross domestic product (GDP), and exchange rates. More than 100 research papers related to Human Resource Development and human capital studied and researchers found that there is an influence of human capital on economic growth and organizational development of automobile industries. The automobile industry is segmented into three categories, manufacturing, service, and engineering, not only is this study very constructive for the automotive industry, it will create awareness and need for human capital for all manufacturing companies in India.

Current status of automobile industry in India.

- June 2021 total production of Passenger Vehicles- was 16,93,639 units.
- Under Domestic Sales:
  - ➤ Passenger Vehicles sales was 2.32 lakh units.
  - ➤ Three-wheeler sales was 9.4 thousand units.
  - ➤ Two-wheeler sales was 11 lakh units.

- India ranked world's third largest automobile Market.
- Currently manufacturing 26 million vehicles
- In month of Apr.- March 2020, 4.7 million vehicles are exported.
- Automobile industry is expected to reach 16.16 to 18.10 Trillion by 2026
- 7.1 % contributes in India GDP which is 22% of the countries manufacturing GDP
- Channi emerges as world largest automobile manufacturing center.
- 13.03 Million employees engaged in automobile sector.
- 2022 it will grow to 15 million (1.5 cr)
- Maharashtra has 21 Automobile Manufacturing plant (22.58%)
- Pune is Maharashtra's most important automobile centre.

2. Objectives

1. To study and identify the various influencing factor of Human Capital using factorial analysis

2. To Find the correlation between the human capital of an automobile company and economic growth.

3. Establishing relationship between human capital management and organizational development

4. To highlight the needs for human capital development and it's need in automobile companies

3. Review of Literature

Elena Pelinescua,(2015) contributed in her research paper excellent facts that human capital is most crucial factor for economic growth of any organization. The labor productivity is ratio between workforce and physical capital

Amin Fatahi, (2014), expressed in his research paper that people are the largest asset in an organization. They not only affect a company's balance sheet or

income statement, but also profitability within an organization is achieved through people.

Muhammad Mujtaba.(2018) contributed some of the important fact that human capital plays very important role for developing creative thinking and problems solving of Automobile firms. As, these creative people ultimately attends the requirements customers and forecasts the next needs of surrounding economy, is able to deliver sustainability to the business, helping the business organization to compete in the economy. He also expressed in his research paper that automobile sector is one of the big field that requires comprehensive study including all heavy transport vehicle and spare parts manufacturing units which contributes the progressive role in the nation's economy

Mohammad Pasban, (2016) explain in his research paper that human capital is a vital element in improvement of material-assets of an organization. opines that for future oriented sustainability of the economy policy makers must give due allocation of financial resources for improvisation of India's human capital.

Dr. Sushma Shukla (2017) suggested some of the important elements that variety of study areas, the relationship between the human capital and economic growth of urban and rural areas of India.

Mr. Jacob Mincer,(1981) recognizes the importance of human capital which have contributed to india's economic growth. He also supports the two-way link which entails human capital development and economic growth, secondly human development that could increase the national income and societal development.

Jelena Lonska (2015) proposes the objectives of Human Capital to be incorporation of investment in people's development and that results into the economic development of community, territory and nation at large.

Dr. OgohiDaniel,(2019) proposes in his research paper that the training and development needs of any organization falls under two categories Organizational training and Development Needs and Individual Training Needs

4. Conceptual Model
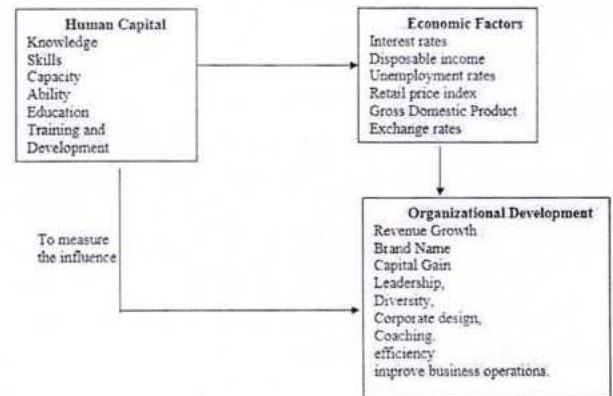
- Research Type: Descriptive research design is used.

- The primary data of this study is collected from management and crucial employees of major Light Transport Vehicle automobile firms based in Pune , 10 automobile companies were identified based on different types like manufacturing , service sector and engineering , Population of this research work was management and crucial employees, who was working in well known automobile firms of India and deals with light transport vehicles segmented as two wheeler , three wheeler and four wheeler. close ended questionnaire was designed and refined after discussions with domain experts to confirm the validity of contents and context. questionnaire was validated and finalized after reliability test.

- Sources of Data:

- Primary data: The well-structured questionnaire was used to obtain primary data. Employees of automobile firms completed the questionnaire.

- Secondary data was gathered from research papers, newspapers, magazines, and journals, as well as company websites.

- Data collection method: Data collection uses structured questionnaires. Both closed and open questions are used

- Scaling Techniques: For study-related questions, a five-point Likert scale,

dichotomous questions, and multiple-choice questions were utilised.

- Sampling Design

- Population: The primary data was collected from automobile companies which were distinguished like manufacturing and service provider, in manufacturing two wheeler , three wheeler and four wheeler segmentation was used.

- Sampling unit: skilled , unskilled , permanent and non permanent employees

- Sampling plan for:-

  ➢ Population- 15000

  ➢ Sample size- 711

  ➢ Sampling Method- random sampling

5. Hypothesis of the study

H1: There is significance association between Human Capital and economic growth in automobile industry

H2: There is positive influence of Human capital on economic and organizational development of automobile company.

H3 : There is a positive link between human resource management and organizational growth.

6. Simple statistical techniques like percentage, ratio, growth rate, charts and for analyzing data t test, correlation using SPSS are used.

7. Analysis and Interpretation
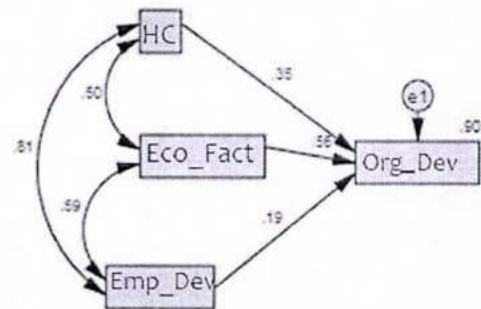
Reliability

Reliability Statistics

Table :1

Cronbach's Alpha	N of Items
945	27

Reliability test is performed on the data and Cronbach's Alpha value is .945 which is greater than

0.7 it means that the questionnaire is reliable for further data analysis .

Estimated Model

Five fit indices (CMIN / DF, PNFI, GFI, CFI, RMSEA) have been used to assess the model fit of the measurement model.

CFA RESULTS

Table-2

Fit indices	Observed	Criteria of acceptable fit	Result
CMIN/DF (Minimum discrepancy as indexed chi-square)	3.634	Less than 5	Good fit
CFI (Comparative fit index)	1.345	More than 0.9 for good fit, between 0.9 to 0.8 for borderline fit	Good fit
GFI (Goodness of fit index)	0.987	More than 0.9	Good fit
PNFI (Parsimonious Normal fit)	0.282	More than 0.5	Marginally missed
RMSEA (Root Mean Square error of approximation)	0.953	Less than 0.08 for adequate fit, between 0.08 and less than 0.1 for borderline fit	Good fit

Interpretation:

The measurement model consisted of 11 items from 3 independent variables emerged after EFA. The final measurement model obtained has been close to good fit as CMIN/df= 3.634 Comparative fit index
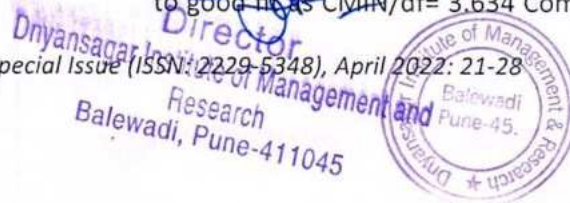
[CFI] = 1.345 root mean square error of approximation [RMSEA] =.753, GFI =0.987, PNFI=0.282.

All the fit indices suggest a good fit between the hypothetical model and the sample data. Except for PNFI which has marginally missed the threshold, since the measurement model is valid, we proceed to assessment of structural modeling.

Reliability and Validity

Reliability is the ability of the scale to produce consistent results. It is the extent to which items of a construct gel well in defining the underlying construct.

Validity is the ability of the scale to measure what it is supposed to measure. It is the extent to which items of a construct define the underlying construct.

Since the hypothetical model reflects/ highlights linkages between latent constructs, construct validity and reliability are used to measure the internal consistency and trustworthiness of the measurement scale.

Construct validity and reliability

Construct validity is the extent to which a set of measured items actually reflect the theoretical latent construct that they are designed to measure. It includes (1) Convergent validity [(Factor loadings), Average Variance extracted (AVE)]; (2) Discriminate Validity.

Factor loading

The size of the factor loading is an important indicator of convergent validity. Factor loadings that are significant with loading values above 0.5 indicate convergent validity.

Factor loading and Average Variance Extracted chart

Table-3

Measured Indicators	Direction of causal flow	Construct	Factor loadings
Revenuegrowth	<--->	ORG_DEV	0.764
Brandname	<--->	ORG_DEV	0.830

Capitalgain	<--->	ORG_DEV	0.741
Diversity	<--->	ORG_DEV	0.886
Knowledge	<--->	HUMAN_CAP	0.860
Skills	<--->	HUMAN_CAP	0.721
Capacity	<--->	HUMAN_CAP	0.516
Education	<--->	HUMAN_CAP	0.860
Intrate	<--->	ECO_FAC	0.840
Disposalinc	<--->	ECO_FAC	0.860
GDP	<-->	ECO_FAC	0.721

Interpretation:

All the of the constructs have factor loadings above 0.5 and are significant at 0.1% level of significance. Hence construct validity is supported.

Average variance extracted (AVE)

Average Variance Extracted (AVE) is one of the most important indicator of construct validity. As a rule of thumb, AVE of 0.5 or higher suggests adequate convergence. Average variance extracted for all construct is above the threshold mark of 0.5. Hence construct validity is supported.

Construct reliability

Cronbach's Alpha is a very commonly used technique of internal consistency. It is a measure of internal consistency among items of a construct. Alpha score above 0.7 indicates reliability. In the current case all construct reliability score above 0.7. Hence reliability is supported.

Table 4: Construct reliability

Construct	No. of items	Cronbach's Alpha	Average Variance
HUMAN_CAP	10	0.844	0.49
ORG_DEV	12	0.655	0.38
ECO_FAC	5	0.751	0.67

Interpretation:

Construct of model should be unrelated. Discriminant validity assesses the extent to which a construct is truly distinct from other constructs in the model. High discriminant validity provide evidence that a construct is unique and different from the rest and have phenomenon that other measures do not. Discriminant validity exits if average of Average Variance Extracted is greater than r^2 between two

An Analytical Study of Investors' Perception Towards Investing in Equity Mutual Funds During COVID-19 Situation

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Abstract

Mutual funds are treated as a vehicle of investment, which is suitable for the all-age groups of investors who want to take good return from their investment and are ready to bear risk. Equity Mutual Funds are those where funds are invested in equity shares of various companies. This research paper is an attempt to understand investor's perception towards Equity Mutual Fund schemes during COVID-19 and to study and analyze various factors influencing investor's perception. A survey was conducted via questionnaire and primary data was collected from 120 respondents from Pune city. It was found that there is an impact of COVID-19 situation on investor's investment in Equity Mutual Fund schemes and it depends upon risk, fixed rate of return, SIP mode, company's past track record, higher return, liquidity, tax saving option, sector wise, and size of the equity mutual fund. This study also suggests what kind of steps are needed to take to build up the investor's confidence in Equity Mutual Funds schemes while investing during the outbreak of COVID-19 situation.

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