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THE JOURNEY OF SPICES IN INDIA**Dr. Harsha Assotikar**

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ABSTRACT

In the world of spices, India is at the center where no country has shaped the way the Indians have used them. In return, the spices have shaped the course of Indian history, how outsiders came initially to trade than to conquer the country. Indians have a passion to use them in most of their food, whereas the western world uses the term curry powder which has become very famous over a while. Spices in India has always been one of the prime sources of income for millions of people and more than 3 million farmers are engaged directly and indirectly in spice cultivation, processing, manufacturing, grading, marketing and also exporting them. From time immemorial, India has always been the largest exporter worldwide. At the same time, India is also facing tough competition from many countries. The spice industry is a prominent place over the past seven decades. Spices or their active compounds could be used as possible ameliorative or preventive agents for health disorders. Spices are rich in antioxidants, and scientific studies suggest that they are also potent inhibitors of tissue damage and inflammation caused by high levels of blood sugar and circulating lipids. Because spices have very low-calorie content and are relatively inexpensive, they are reliable sources of antioxidants and other potentially bioactive compounds in the diet. This review outlines the overall journey of spices used in the Indian kitchen for their flavour and taste which are potential to maintain a healthy heart.

INTRODUCTION

For thousands of years, agriculture has played a vital role in the Indian economy. India has been known for its spice trade across the world for over 5000 years. Today, over 60% of rural households depend on agriculture as their primary source of income, and agriculture, along with fisheries and forestry, is one of the largest contributors to India's GDP. Indian spices are globally recognized for their exquisite aroma, texture, taste, and medicinal value, making them one of the most economically and commercially significant agriculture crops in India and worldwide.

When people think of India, they often think of its diversity and offerings in terms of culture, tradition, food, and religion. With 28 states and 9 union territories and a population of 1.4 billion, food is the common thread that runs through most Indians. The use of numerous spices to create unique flavours is an essential aspect of Indian cuisine, giving identity to specific places, cultures, and traditions. Pepper, being the oldest spice found in India, continues to be a significant trading commodity, with the International Pepper Exchange based in Kochi. Indian food is synonymous with spices, and cooking with them is the key to achieving delicious food.

HISTORY OF SPICES

The Indian spice journey has been dated as back as 7000 years old, the Indians carried spices through ships which also carried other products like perfumes and textiles to various parts of the world. The Greek merchants imported spices, silk, Dhaka muslin, and also cloth of gold from South India. Roman-Parthian wars are said to have been fought largely to keep the trade route of India open. Magellan charted the first circumnavigation of the globe in search of the Magical Spice Islands and their cloves. Vasco de Gama sailed the dangerous waters around Africa and met Indian Gujrati trader Kanha Bhai who led him to India. Vasco da Gama came to India in his quest for spices, this is mentioned in his diary. Christopher Columbus sought a shorter route to India for gold and pepper but found the New World in 1493, while returning home he brought along chilies thinking it to be a pepper, which later became famous in all parts of the world. Vasco da Gama is said to have brought chilies for the first in Goa, India in the year 1498 and further it became very popular in other parts of the world.

Portugal had taken control of the Malabar coast and then Ceylon(Sri Lanka) for trade purposes by the year 1511. Until the 16th century, the Portuguese had a monopoly on the spice trade in India. Black Pepper was one most important products, and it was as valuable as gold was called 'Black Gold' in those days. The Portuguese state revenue came from Western Africa for gold and Indian pepper and other spices. The proportion of the spices greatly outweighed the gold.

The Indian Spice like Saffron also called Kesar was the most expensive spice then, and it has been utilized by Indians as old as 2500 years back, it has been mentioned in the Hindu text as the most Holy Spice and was considered an Aphrodisiac which can cure more than 90 diseases in Ayurveda. It was symbolized, Royal as this was used by royal families to dye their clothes, also use on their forehead as tikka, and later took its place in the Royal kitchen as a major ingredient for enchaining flavour. Most of the saffron came from Jammu and Kashmir predominately from Pampore region. Even today 80% of production which happens in India comes from

various parts of Jammu and Kashmir and is also exported to various parts of the world as Indian Saffron. Another spice that was famous in ancient times is Cardamom which is said to be one of the oldest spices of all dating back to 4000 years. In India, the first production started in the Southern part. This spice is also mentioned in Chanakya Shastra as a gifting spice and at the same time, this spice was exported from India to Greece. Another, important spice of India has always been Turmeric which was used in India as old as 5000 years back but for a different purpose is cloth dye as this has strong colour and only started utilized in the kitchen and medicinal purpose 2500 years later. This spice is also used in Indian celebrations in a big way by the Hindus. Turmeric was compared to saffron first by Italian Traveller Marco Polo in the year 1280.

OBJECTIVES

1. To understand the significance of spices in Indian Food.
2. To study the various variety of Indian Spices and their journey.
3. Experience the cuisine of India through the flavours of spices that make it unique.

RESEARCH METHODOLOGY

Indian spices have become an important source for Indian food lovers and also spices have gained popularity across the globe as this enhances food and also has major health benefits. The spices have their flavours and essential nutrients. The data for this research was collected from secondary sources consisting primarily of official government documents, several research articles, tourism websites, menus, and media reports in this context

Importance of Spices in Indian Food

Spices used in India are called Masalas and are usually used in the cooking process they are often a mix of several spices and herbs together, they usually vary in proportion depending on the recipes. The most commonly used mixture of spices is called Garam masala, which is a blend of various spices the recipe of the garam masala depends on each state, or every home has its style of making it. Spices and herbs in India play a vital role not just in cooking but a lot has been mentioned in Ayurveda texts where they are prescribed for their curative and therapeutic properties. In the ancient Indian medical books of Charaka and Sushruta, there are many references to the medicinal uses of various herbs and spices, with documentation of nearly seven hundred medicines that are of plant origins, such as turmeric, ginger, cinnamon, pepper, cardamom, and ginger.

Indians always have a great belief in herbs and spices, which remains strong and during Covid times there has been an increase in the use of herbs and spices that boost immunity. The use of turmeric and ginger in drinks such as Kada and cooked food has seen a significant rise in fighting the current pandemic and even today India is seen as the ancient land that keeps growing exotic spices.

Type of Indian Spices: The Indian spices can be categorized into three main categories:

1. The Basic Spices
2. Complimentary Spices
3. Aromatic or Secondary Spices

The Basic Spices

In Indian cuisine, certain Basic spices are used in most of the dishes. Most of the vegetable dishes are added with basic spices like cumin, mustard seeds, and asafoetida in some hot oil or ghee to sizzle and pop, then the main vegetable is added accordingly and steamed. A few of the basic spices are :

Cumin Seeds/Jeera: Cumin or Jeera it's been used all over India. It gives a warm and earthy aroma which is why it is used in the raw form or cooked in hot oil or ghee to get its aroma. Cumin seed also has health benefits when consumed plain or added to food preparation. A few benefits are it gives relieves nausea, bloating, boosts blood circulation, etc.

Mustard Seeds/ Mohori/Rai: The seeds are usually used to season food by adding them to hot oil or ghee. Mustard paste is also used to make Indian pickles in the northern regions of the country.

Red Dry Chili/Lal Mirch: The red dry chili, or Lal Mirch, was not originally a part of Indian cuisine but was introduced by the Portuguese. There are around 3000 different cultivars of this spice grown worldwide, with 25 varieties found in India. The hottest variety, Bhut Jolokia (ghost pepper), is commonly available in the north-eastern states of India.

Turmeric Powder/Haldi: In its raw state, turmeric resembles ginger and has a shallow orange-yellow colour on the inside. When used for cooking, the stem is dried and crushed, giving the food a yellowish hue. It has a subtle fragrance of ginger and a mild aroma.

Asafoetida /Hing: The smell of this spice raw method is solid and pungent, nasty however it is often called the demons manure, stinking gum, devil's dung, ferula, foetida, or heeng. By adding it to hot oil or ghee, it gives a pleasant sweet flavour. It is also referred to as the food of the Gods in the Hindu religion due to its medical benefits.

Coriander Seeds /Dhania: The seeds are crushed by roasting them in a dry skillet or without roasting. Seeds that have been powdered have a warm fruity taste and are dark in shade. Both are used in Indian cuisine.

Peppercorns: Pepper has an important role to play in the history of the spice trade. It's also called the 'King of Spices' and also 'Master of Spices'. This spice was used in Indian kitchens as old as 3000 BC.

Complementary Spices

Spices like fennel or nigella seeds are sometimes added along with some of the basic spices to add to flavours. These are used in combination with the basic spices and aromatics mentioned below according to the dish being prepared.

Fennel Seeds/Saunf: Fennel seeds are widely used in Indian cuisine to flavour curries, chutney, and pickles. Saunf is an essential ingredient in the making of Rogan Josh, a Kashmiri meat delicacy.

Fenugreek Seeds/ Methi/ halba : This spice, which is a lentil, is used throughout India for its distinctive flavour (it has a slightly bitter taste) it gives the dish and is known for its wonderful healthful properties.

Carom Seeds/Ajwain: The seeds are grey and are also pungent. Ajwain has very strong flavours and the smell and the taste bear a close similarity to Thyme.

Nigella Seeds/Kalonji/Onion Seeds/ Black Caraway: Small black seeds, sometimes called onion seeds, although they are not seeding from onions.

Aromatics or Secondary Spices

To the spices above spice would add chopped onions, tomatoes, herbs, and any of the following secondary spices and create a curry.

CONCLUSION

India is considered as "Home of Spice" across the world, as Indians have been an instrument in utilising the spices in various recipes. Spices and Herbs may be coming from various sources like dried fruits, flowers, barks, seed, and roots of plants and is used for flavouring, colouring, or even preserving food also. Other than food spices and herbs are largely used in perfumery, cosmetics, and medicinal purpose. The Spices Board of the Government of India has categorized the spices into 52 kinds and five broad categories in terms of their origin and features. The categories include major, seed, tree, herbal, and others. The 52 spices are distributed amongst these categories. Spices and Herbs are dried parts of various plants cultivated for their aromatic pungent or otherwise desirable substances, the dominant spices of trade including cardamom, chilli, cinnamon, cloves, ginger, and pepper. In India, different states are known for different spices that are grown.

Simple Indian food can be completely turned into an extraordinary experience by using spices. As several metabolic diseases, age-related degenerative disorders, to build the immunity in the body, cardiovascular disorders are closely associated with oxidative processes in the body, the use of spices as a source of antioxidants to combat oxidation warrants further great attention the spices caught up during the covid pandemic.

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SOCIO-CULTURAL CODES IN CADBURY DAIRY MILK'S "FRIDGE MEI MEETHA TOH GHAR MEETHA" ADVERTISEMENT CAMPAIGN IN 2022**Anis Chattopadhyay¹ and Prof. (Dr.) Sujit Mukherjee²**¹Assistant Professor, Department of Hospital Management, Techno India²Professor and Head, School of Management Science, Maulana Abul Kalam Azad University of Technology, West Bengal**ABSTRACT**

The article is devoted to the consideration of the role of social and cultural codes in the modern advertising discourse of Cadbury dairy milk's "Fridge Mei Meetha Toh Ghar Meetha" campaign aired in 2022. The relevance of the study is determined, in particular, by the fact that modern day to-day realities are forcing advertisers to use new communication channels and create "catchy" creative, which are based on a deep analysis of consumers behaviour, their habits, stereotypes and, as a result, the semiotic communication system. The communication policy of the company, built on the provocative breakdown of gender stereotypes, is examined using the material of advertising texts of the Cadbury dairy milk brand through a semiotic analysis. The brand has earned community approval and increased sales using triggered messages and visuals featuring togetherness appeal. The authors pay special attention to the fact that Cadbury dairy milk created all advertising campaigns according to the essence of relationships in different occasion and emphasises on love, affection and togetherness. In this aspect the advertisers portrays essence of day to day banter between the family members. This is an important aspect, because for the necessary communication and economic efficiency, advertisers need to take into account the cultural codes of the country. It is also noted that as a result, the brand has developed its social aspect, which has become one of the main channels of communication with potential consumers – people of all ages. The studied brand was able to achieve important economic and communication goals, i.e., to stand out from competitors, increase sales and become better known with the help of social colouring of communications, non-standard solutions and the use of the laws of semiotics.

Keywords: socio-cultural codes, semiotic, appeal

INTRODUCTION

Nowadays, popular culture has become an important and integral part of society. The wonder of advertising infringes into the life of every contemporary person, becoming an irreversible reality. This has been true in the past few decades that advertising has shown speedy change and incredible growth, finding new methods of presenting information and covering topics that were not previously managed by manufacturers of goods and services. Today, the attention and constancy of the consumer can be reserved not only by attractive texts and photographs, but also by the unique inkling of the importance of the brand in the life of society and a particular person. Thanks to its huge range, advertising influences consumers' behaviour by spreading a definite lifestyle: it conveys a certain set of values, morals, stereotypes and inclinations in the minds of the target audience. The semiotic methodology to the analysis of advertising communication allows us to study in more detail the interface of the consumer with the advertising message, describe the processes of encoding and decoding information, and identify the mechanisms for creating effective advertising (Bati, 2007; Beasley & Danesi, 2010; Brame, 2018; Brame & Jashari, 2018; Lawlor, 1992).

RESEARCH QUESTIONS:

The main research questions of the study are as follows:

- What is the role of verbal and visual ideological and cultural codes in modern advertising?
- What are the specific features of using cultural and ideological semiotic codes in Cadbury dairy milk advertising?
- How do advertisers adapt advertising messages to culture and ideology of India?

Purpose of the Study: The purpose of this study is to analyze the role of cultural codes in advertising communication. Cultural codes in advertising are designed to reflect the needs of a person and society or create them through the lens of mentality. It can be difficult, because it is not always enough to shoot a beautiful video. It is important to choose memorable images that consumers will associate themselves with and agree with a posed problem.

Research Methods: To reach the purpose of the research the author employed the following research methods:

- Methods of systematization and theoretical generalization.
- Descriptive analytics.
- Semiotic method of analysis.
- Method of contextual analysis.

“Fridge Mei Meetha Toh Ghar Meetha”



Link: of advertisement campaign of Cadbury with 6 storyline

“Fridge Mei Meetha Toh Ghar Meetha”

1. Sorry: <https://www.youtube.com/watch?v=Dzj9mU-93xc>
2. Mirchi: <https://www.youtube.com/watch?v=QvirZgM7uNI>
3. Torch: <https://www.youtube.com/watch?v=YARSrZT6Bdo>
4. Secret: <https://www.youtube.com/watch?v=YITlzM4otUk>
5. Dabba: <https://www.youtube.com/watch?v=GylgA1aR6Vo>
6. Speakerphone: <https://www.youtube.com/watch?v=uAiapBnFsKs>

Socio-Cultural Code:

Cultural codes are defined as symbols and systems of meaning that are relevant to members of a particular culture (or subculture). These codes can be utilized to facilitate communication within the 'inside group' and also to obscure the meaning to 'outside groups'.

Cultural code refers to several related concepts about the body of shared practices, expectations and conventions specific to a given domain of a culture. Under one interpretation, a cultural code is seen as defining a set of images that are associated with a particular group of stereotypes in our minds.

For the understanding of the research in better way the socio-cultural aspects have been divided in to two divisions.

1. Cultural codes
2. Social codes

1. cultural codes

Barthes identifies five different kinds of semiotic elements that are common to all texts. He gathers these signifiers into five codes: **Hermeneutic, Proairetic, Semantic, Symbolic, and Cultural**. To learn more about each code, use this interactive explanation.

Hermeneutic Codes: The word hermeneutics means the interpretation of language, whether written or spoken. Generally, hermeneutics is an activity that interests biblical scholars, and the word is sometimes used in philosophy as well. In sociology, hermeneutics is the interpretation and understanding of social events through analysis of their meanings for the human participants in the events.

Proairetic code: The proairetic code (ACT.) refers to the other major structuring principle that builds interest or suspense on the part of a reader or viewer. The proairetic code applies to any action that implies a further narrative action.

Semantic Codes: Barthes argued some codes had “flickers of meaning” in the text. Rather than simply working on a denotational level, these signs carried connotations beyond their basic definition and gave the reader a little more insight to the characters, setting and plot.

Symbolic Codes: Symbolic codes are best defined as thematic or structural devices.

Barthes suggested symbolic codes are a “battle” between contrasting signs. For example, the words “hot” and “cold” could be two very different semantic codes. However, when they are placed together in a story, the binary opposites help emphasise the difference between whatever characters or setting are being represented. It is the writer’s deliberate use of antithesis that elevates the signs to symbolic codes.

Cultural Codes

Many stories allude to concepts and ideas that exist outside the text. In order for these signifiers to be decoded fully by the audience, that information needs to be part of our framework of knowledge. These **cultural codes** include historical, social, psychological or literary references.

2. Social Codes

“Brands” are no longer *Mad Men* in plaid suits trying to sell you something. Brands are not evil entities trying to trick you. Brands are communities: connected clusters of people who believe in the same things, dislike the same things, act the same way, talk the same language, and use a system of identifiers to signify who they are — to members within their same group and the world at large.

There are seven (7) Social codes which make a name into a brand

These seven elements are: the *creation story*, *creed*, *icons*, *rituals*, *lexicon* (or *sacred words*), *nonbelievers*, and *leader*.

This is the social code: a holistic construct that drives meaning and transforms what starts out as meaningless, to becoming a meaningful part of our world. It’s what turns social brands into viral brands.

1. Creation Story: The narrative begins at the beginning, with your creation story.

We all want to know where we came from, where we were born, who made us. Think of your profile on LinkedIn. Your “about” section on Facebook. The same is true for organizations, movements, personalities, civic communities, even products and services.

2. Creed: The second piece of the social code is the creed.

The creed is the core of belief. It’s what brings people together. Whether we take oaths, pledge allegiance, or agree to privacy policies and terms of use, we agree either implicitly or explicitly to common bonds, interests, and goals.

3. Icons: Icons are the flags that tag us and show others who we are.

Icons are also memes that instantaneously signal whether we should approach or avoid: they are part of our primal hardwiring and ping the essential meaning of our community in nanoseconds.

4. Ritual: Ritual is the fourth piece of social code.

Rituals bring members of the community together as they post, share, pin, poke, Like, Yelp, text, upload, download, Skype, stream, and chat.

5. Lexicon: All social communities have their own set of words that is understood by those inside the community, but unfamiliar to anyone standing outside.

Think of the first time you ate sushi: Someone walked you through the process of ordering.

Think of social acronyms, like “lol,” three letters understood by millions of people around the world who are members of the growing global digital community. This borderless community also understands acronyms like “lmao,” “afk,” “rotfl,” “pos,” and “fomo.”

6. Nonbelievers: All communities have a counter-community of persons who do not believe.

This counterculture of haters, pagans, and heretics (think Droid versus iPhone, carnivore versus vegetarian, Rachel Maddow versus Fox News, or Manchester versus Bayern Munich) reminds us of what we are *not*.

7. Leader: Finally, all communities have a leader who sets out against all odds and the world at large in order to recreate the world according to their own point of view.

Think Elon Musk. Steve Jobs. Gloria Steinem. Sir Richard Branson. Oprah. Jeff Bezos. Nelson Mandala. Yvon Chouinard. George Washington.

In social media, key influencers become leaders, whether they appear as influential individuals, influential discussions, or influential sites. Why? Because where they lead, others follow.

METHODOLOGY

Secondary research followed by Primary research. Different sources were explored to know the insight view of the advertising and then different respondents of different age groups were asked the questions by the help of the semi-structured questionnaire attached below.

Sample Size: 50 respondents

Sampling methods: Purposive and convenience sampling

Data collection tool: Semi-Structured Questionnaire.

Data Analysis: Data analysis has been done by using different statistical methods

QUESTIONNAIRE

FOR

Socio-cultural codes in Cadbury dairy milk’s “Fridge Mei Meetha Toh Ghar Meetha” Advertisement campaign in 2022

Section I: Demographic and General Inquiries (please tick the correct alternative)

NAME (NOT MANDATORY):

1. Gender profile:

- a] Male
- b] Female
- c] Third Gender

2. Age profile:

- a] Between 10-20
- b] Between 21-30
- c] Between 31-40
- d] Between 41-50
- e] Above 50

3. Education Profile

- a] Undergraduate

b] Post-graduate

c] Professional degrees

4. Marital status

a] Married

b] Unmarried

5. Residence Area

a] Rural

b] Urban

c] Semi Urban

6. Level of monthly income

a] Between Rs. 10,000 - 20,000

b] Between Rs.20,001 - 30,000

c] Between Rs. 30,001 - 50,000

d] Above Rs. 50,000

Section II

7. Are you aware of Cadbury dairy milk that are available in India?

a] Yes

b] No

(if yes then go to next question, else terminate)

8. Have you seen the television (audio-visual) advt of Cadbury dairy milk's "**Fridge Mei Meetha Toh Ghar Meetha**" series.

A] yes

B] no

(if yes go to number 10 question, else go to 9)

9. have you seen following advt?

A] Yes

B] No

(if yes, go to 10 question, else terminate)



10. Where have you seen?

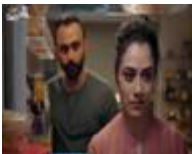





- A] Television channel (including cable, satellite channel)
- B] YouTube
- C] Facebook
- D] Games
- E] Instagram
- F] OTT platform
- G] any other, please mention

11. Please tick/ write the correct number in each of the advertisement under each parameter of **Cultural codes**.

cultural codes	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	Hermeneu tic Codes – it helps to understand and interpret of social events																													




Proairetic code – it builds any interest or suspense in your mind	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)
Semantic Codes - understood little more insight to the characters, setting and plot	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)
Symbolic Codes - interpreted the inner meaning with the help of colour, sign, symbols or gestures	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)	(only write down the point)




12. Please tick/ write the correct number in each of the advertisement under each parameter of **Social codes**.

Social Codes	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Creation Story – it helps to understand what are the roles of the characters and what they are actually doing																														
Creed – it establishes core of belief which brings people together	(only write down the point)					(only write down the point)					(only write down the point)					(only write down the point)					(only write down the point)					(only write down the point)				
Icons – it describes who we are and how do I identify with the actors and actresses with help of some flags,																														

signs							
Ritual – it clearly identifies rituals which bring members of the community together							
Lexicon –it clearly describes our social communities by means of our own set of words that is understood by us.							
Nonbelievers : it clearly specifies nonbelievers							
Leader : It clearly identifies the leader, who convinces the community to buy and use it							

13. Where do you understand the meaning? Choose more than one but, in case of more than one give priority by using number i.e. chronologically number to be given

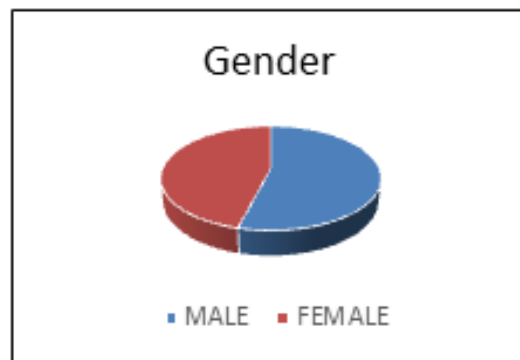
Advertising	Criteria								
	Story line	Colour	lighting	Facial expression	dialogue	smile	Other gestures	appeal	others
									
									
									

FINDINGS AND ANALYSIS

1.

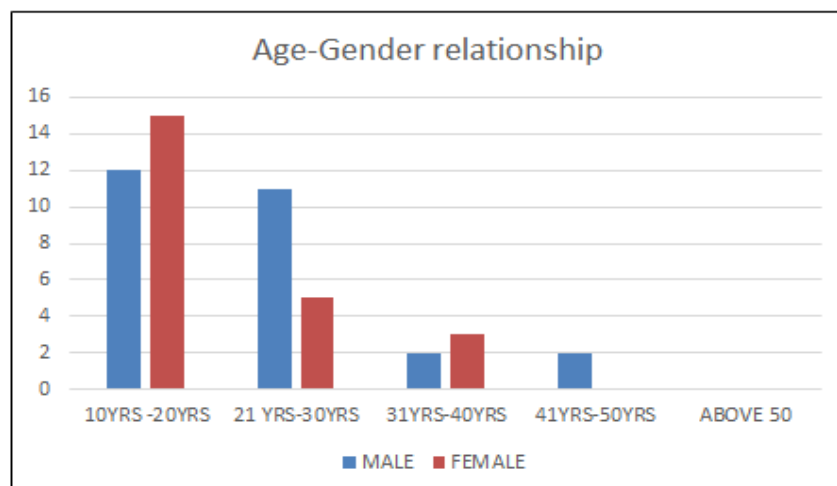
Male	Female
27	23



2.

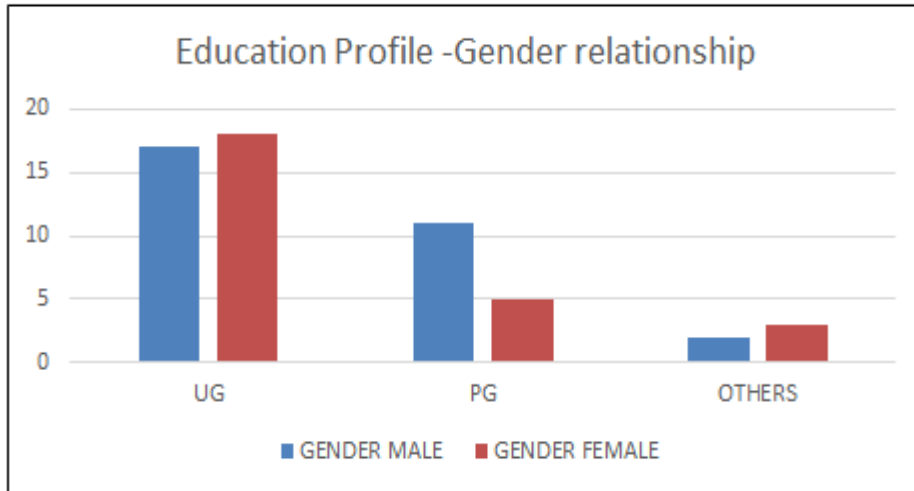
Age	Gender	
	Male	Female
10YRS -20YRS	12	15
21 YRS-30YRS	11	5
31YRS-40YRS	2	3
41YRS-50YRS	2	0
ABOVE 50	0	0

3.



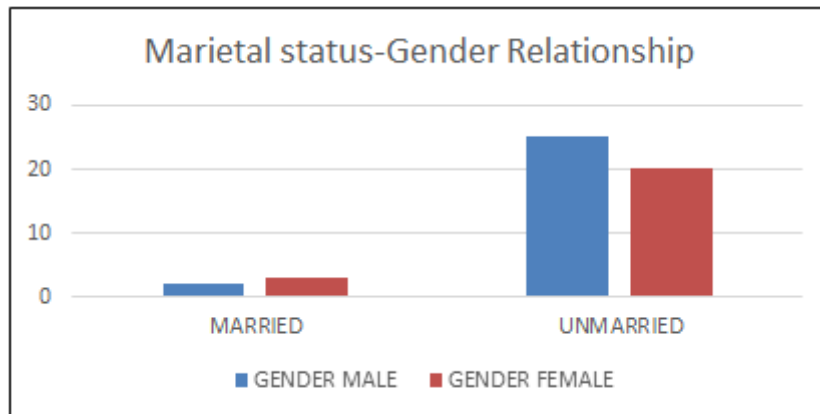
4.

Educational profile	Gender	
	Male	Female
UG	17	18
PG	11	5
OTHERS	2	3



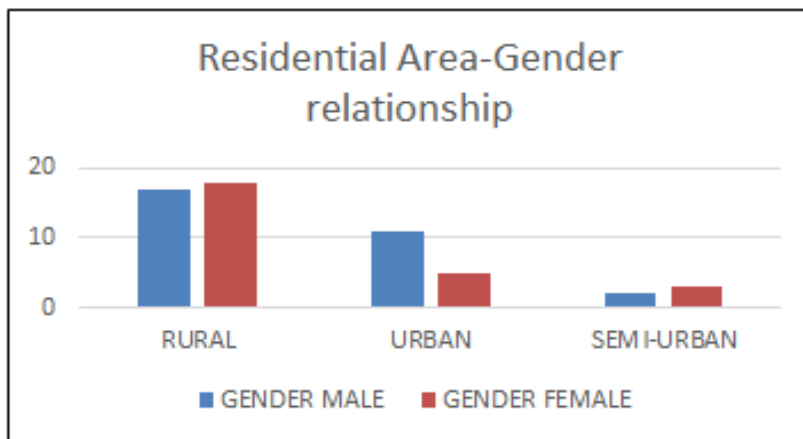
5.

Marital status	Gender	
	Male	Female
MARRIED	2	3
UNMARRIED	25	20



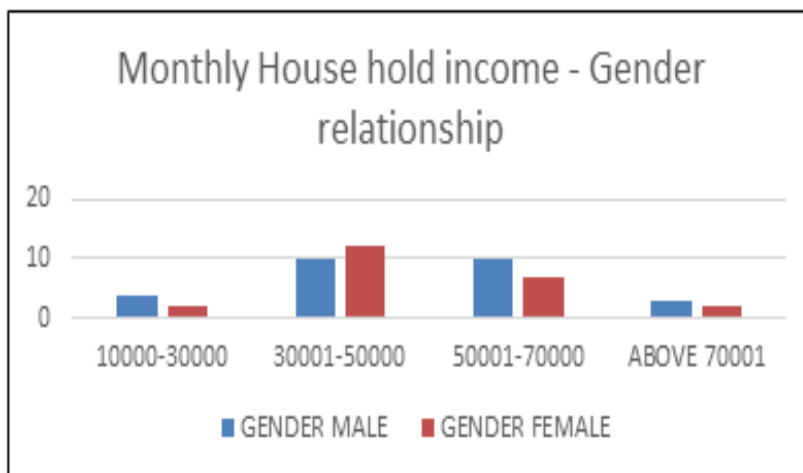
6.

Residential Area	Gender	
	Male	Female
Rural	17	18
Urban	11	5
Semi-Urban	2	3



7.

Mhi	Gender	
	Male	Female
10000-30000	4	2
30001-50000	10	12
50001-70000	10	7
Above 70001	3	2



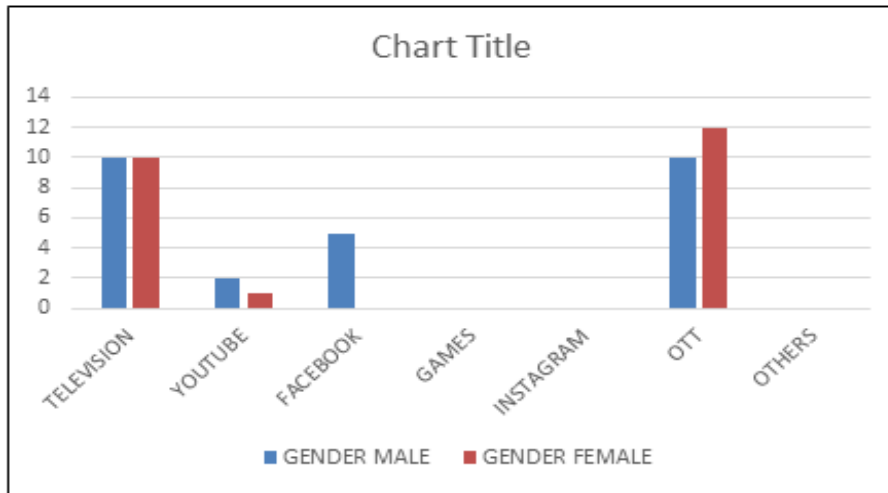
8. YES – 50

9. YES – 50

10. Not applicable

11.

Media	Gender	
	Male	Female
Television	10	10
Youtube	2	1
Facebook	5	0
Games	0	0
Instagram	0	0
Ott	10	12
Others	0	0



12.

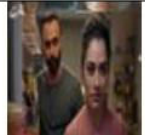

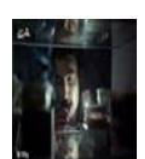



Cultural Code Analysis						
CODES	ADVT 1	ADVT 2	ADVT 3	ADVT 4	ADVT 5	ADVT 6
1.Hermeneutic Codes – it helps to understand and interpret of social events	5*23 =115, 4*17=68, 3*10=30 TOTAL=213	5*25 =125, 4*18=72, 3*7=21 TOTAL=218	5*10 =50, 4*10=40, 3*30=90 TOTAL=180	5*30 =150, 4*30=120 TOTAL=270	5*5=25, 4*5=20, 3*20=60 2*20=40 TOTAL=145	5*17=85, 4*18=72, 3*15=45 TOTAL=202
2. Proairetic code – it builds any interest or suspense in your mind	5*27 =135, 4*20=80, 3*10=30 TOTAL=245	5*10 =50, 4*12=72, 3*28=84 TOTAL=206	5*12 = 60, 4*12= 48, 3*26=78 TOTAL=186	5*35 =175, 4*12=48, 3*3=9 TOTAL=232	5*8 =40, 4*13=52, 3*25=75 2*4= 8 TOTAL=175	5*21 =115, 4*15=60, 3*14=42 TOTAL=217
3.Semantic Codes - understood little more insight to the characters, setting and plot	5*29 =145, 4*18=72, 3*3=9 TOTAL=226	5*7=35 4*8=32 3*35=105 TOTAL=172	5*8 =40, 4*12=48, 3*25=75 2*5= 10 TOTAL=173	5*37 =185, 4*13=52, TOTAL=237	5*13=65 4*25=100 3*12=36 TOTAL=201	5*26 = 150, 4*24=120 TOTAL=270
4.Symbolic Codes - interpreted the inner meaning with the help of colour, sign, symbols or gestures	5*35 =175, 4*15=60, TOTAL=235	5*10 =50, 4*10=40, 3*30=90 TOTAL=180	5*15 =75, 4*15=60, 3*20=60 TOTAL=195	5*40 =200, 4*20=80, TOTAL=280	5*27 =135, 4*13=52, 3*10=30 TOTAL=217	5*28 =140, 4*22=88, TOTAL=228

13.

Social Code Analysis						
Creation Story – it helps to understand what are the roles of the	5*35 =175 4*15=60 TOTAL=235	5*25 =125 4*25=100 TOTAL=225	5*20 =100 4*18=72 3*12=36 TOTAL=208	5*45 =225 4*5=20 TOTAL=245	5*5=25 4*15=60 3*30=90 TOTAL=175	5*20=100 4*19=76 3*11=33 TOTAL=209

characters and what they are actually doing						
Creed – it establishes core of belief which brings people together	5*45 =225 4*5=20 TOTAL = 245	5*20 =100 4*10=40 3*20=60 TOTAL =200	5*12=60 4*12=48 3*26=78 TOTAL =186	5*40 =200 4*5=20 3*5=15 TOTAL =235	5*5=25 4*10=40 3*35=105 TOTAL =170	5*22 =110 4*18=72 3*10=30 TOTAL =212
Icons – it describes who we are and how do I identify with the actors and actresses with help of some flags, signs	5*40 =200, 4*10=40, TOTAL= 240	5*25 =125, 4*17=68, 3*8=24 TOTAL= 217	5*15 =75, 4*15=60, 3*20=60 TOTAL= 195	5*40 =200, 4*10=40, TOTAL= 240	5*13=65 4*25=100 3*12=36 TOTAL =201	5*26 =130 4*24=96, TOTAL= 226
Ritual – it clearly identifies rituals which bring members of the community together	5*45 =225 4*5=20 TOTAL = 245	5*25=125 4*18=72 TOTAL=197	5*12=60 4*12=48 3*26=78 TOTAL =186	5*45 =225 4*5=20 TOTAL = 245	5*13=65 4*8=32 3*29=87 TOTAL =184	5*18=90 4*17=68 3*15=45 TOTAL =203
Lexicon –it clearly describes our social communities by means of our own set of words that is understood by us.	5*40 =200, 4*10=40, TOTAL= 240	5*25=125 4*25=100, TOTAL= 225	5*15=75 4*15=60 3*20=60 TOTAL =195	5*42=210, 4*18=72, TOTAL= 282	5*17=85 4*14=56 3*19=57 TOTAL =198	5*23=115 4*17=68 3*10=30 TOTAL =213
Nonbelievers: it clearly specify nonbelievers	5*12=60 4*12=48 3*26=78 TOTAL =186	5*45 =225 4*5=20 TOTAL = 245	5*13=65 4*8=32 3*29=87 TOTAL =184	5*18=90 4*17=68 3*15=45 TOTAL =203	5*25 =125, 4*17=68, 3*8=24 TOTAL= 217	5*15 =75, 4*15=60, 3*20=60 TOTAL= 195
Leader: It clearly identifies the leader, who convince te community to buy and use it	5*45 =225 4*5=20 TOTAL = 245	5*20 =100 4*10=40 3*20=60 TOTAL =200	5*12=60 4*12=48 3*26=78 TOTAL =186	5*40 =200, 4*10=40, TOTAL= 240	5*13=65 4*25=100 3*12=36 TOTAL =201	5*26 =130 4*24=96, TOTAL= 226

14. Where do you understand the meaning? Choose more than one but, in case of more than one give priority by using number i.e. chronologically number to be given.

Advertising	Criteria (Response % Obtained)								
	Story line	Colour/ costumes	Lighting	Facial expression	Dialogue	Smile	Other gestures	Appeal	Acting
	50	0	0	20	0	10	0	10	10
	20	30	20	10	0	0	0	10	10
	10	10	40	10	0	0	0	15	15
	40	0	0	0	0	0	0	20	40
	5	20	20	20	5	5	5	0	0
	30	0	25	23	0	0	0	10	12

CONCLUSION

In the cultural code analysis it is found that the

1. **Score of Hermeneutic Codes** is highest in advertisement 4 of this series i.e. the advertisement helps to understand and interpret of social events in advertisement no. 4, - “secret”- the story of father and daughter.
2. **In case of Proairetic code**, - which builds any interest or suspense in your mind. The score is highest 245 in advertisement 1, i.e., “Sorry”.
3. **Advertisement no. 6**, - speakerphone has got highest score ie, 245 in the third parameter, - Semantic Codes which helps audience to understand little more insight to the characters, setting and plot.
4. **Again advertisement 4**, - “Secret” got the highest score 280 in Symbolic Codes, which interpreted the inner meaning with the help of colour, sign, symbols or gestures.

In the social code analysis it is found that the

5. **Score of Creation Story**, which helps to understand the roles of the characters and what they are actually doing is highest 245 in case of advertisement 4- “Secret”.
6. **The score of Creed** – it establishes core of belief which brings people together is highest (245) in advertisement 1 ie, “Sorry”

-
7. **Icons** – it describes who we are and how do I identify with the actors and actresses with help of some flags, signs is highest in two advertisement i) advertisement 1 – “Sorry” and ii) advertisement 4 “Secret”.
8. **Icons** – it describes who we are and how do I identify with the actors and actresses with help of some flags, signs. **Again the two advertisements 1 and 4 have scored highest 245.**
9. **Lexicon** –it clearly describes our social communities by means of our own set of words that is understood by us. Advertisement 4 scored highest 282.
10. **Advertisement 2 ie. “Mirchi” scored highest 245, in case of Nonbelievers:** it clearly specify nonbelievers.
11. **Advertisement 1 scored highest in case of Leader:** It clearly identifies the leader, who convince te community to buy and use it.
12. **While judging the different aspect of audio-visual advertising, the following responses have been recorded.**
- i. **In case of advertisement number 1 ie. “secret” the following parameters have got highest score in percentage -**
- Story line- 50
Facial expression – 20
Smile – 10
Appeal – 10
Acting - 10
- ii. **In case of 2nd advertisement the scores on different parameters are as follows -**
- Story line - 20
Colour/Costumes - 30
Lighting - 20
Facial expression -10
Dialogue - 0
Smile - 0
Other gestures
Appeal - 10
Acting – 10
- iii. **In case of 3rd advertisement the scores are as follows -**
- Story line - 10
Colour/Costumes - 10
Lighting - 40
Facial expression -10
Dialogue - 0
Smile - 0
Other gestures
Appeal - 15
Acting – 15
- iv. **In case of 4th advertisement the scores are as follows -**
- Story line - 40
Colour/Costumes - 0
Lighting - 0
-

Facial expression -0

Dialogue - 0

Smile - 0

Other gestures

Appeal - 20

Acting – 40

v. The scores of 5th advertisement are as follows -

Story line - 5

Colour/Costumes - 20

Lighting - 20

Facial expression -20

Dialogue - 5

Smile - 5

Other gestures - 5

Appeal - 0

Acting – 0

vi. The scores of different parameters of 6th advertisement are as follows -

Story line - 30

Colour/Costumes - 0

Lighting - 25

Facial expression -23

Dialogue - 0

Smile - 0

Other gestures - 0

Appeal - 10

Acting – 12



1. **Sorry:** <https://www.youtube.com/watch?v=Dzj9mU-93xc>
2. **Mirchi:** <https://www.youtube.com/watch?v=QvirZgM7uNI>
3. **Torch:** <https://www.youtube.com/watch?v=YARSrZT6Bdo>
4. **Secret:** <https://www.youtube.com/watch?v=YITlzM4otUk>
5. **Dabba:** <https://www.youtube.com/watch?v=GylgA1aR6Vo>
6. **Speakerphone:** <https://www.youtube.com/watch?v=uAiapBnFsKs>

RECOMMENDATION

1. In case of cultural code it is recommended that the audio-visual advertisement which scores high should have a very good story line.
2. Appeal is next parameter which will indicates socio-cultural code in the advertisement after story line.
3. Acting is the third one which can distinguish an advertisement from another advertisement by means of socio-cultural codes.
4. **Hermeneutic Codes** – it helps to understand and interpret of social events- in this context advertisement 4 has got the highest score – 270 and it is related to its excellent story line and acting having score 40% and appeal having the score 20%.
5. **Proairetic code** – it builds any interest or suspense in your mind- According to AIDA theory this is one of the important factors to attract customer, in this context advertisement 1 has got highest score , -245. It is because of its excellent story line which has the highest score 50%, expression 20%, smiles, appeal and acting having the score of 10% each.
6. **Semantic Codes** - understood little more insight to the characters, setting and plot- this helps to attract the customer by means of kindle the desire. In this context advertisement has got the highest score,- 270 with good storyline- 30%, lighting- 25%, expression – 23%, acting -12% and appeal- 10%.

7. **Symbolic Codes** - interpreted the inner meaning with the help of colour, sign, symbols or gestures which helps the audience to decode the meaning in the same way as it is encoded by the advertisers. In this context advertisement 4 has got the highest score with 280. It is because of its excellent story line which has the highest score 50%, expression 20%, smiles, appeal and acting having the score of 10% each.
8. It can be recommended that to attract the customer cultural code must be strong and that can be done with excellent storyline, facial expression, acting and appeal along with smiles and lighting and out of box cinematography which are done in this series with inside-refrigerator spy-cam.
9. **Creation Story** – it helps to understand what the roles of the characters are and what they are actually doing. It is the most important parameters of social code. In this context advertisement 4 has got the highest score -245 with help of storytelling, acting and appeal, where they have scored 40%, 20% and 20% respectively.
10. **Creed** – it establishes core of belief which brings people together. This meaning could be reflected by love and togetherness appeal. In the research, it is found that advertisement 1 has got highest value – 245. It is because of its excellent story line which has the highest score 50%, expression 20%, smiles, appeal and acting having the score of 10% each.
11. **Icons** – it describes who we are and how do I identify with the actors and actresses with help of some flags, signs, it means it will help audience to identify opinion former and opinion leader. In this parameter two advertisements together have got equal point – 240. It is because of storyline, expression appeals along with smiles and lighting.
12. **Ritual** – it clearly identifies rituals which bring members of the community together- it helps to identify the occasion of use. In this parameter two advertisements together have got equal point – 240. It is because of storyline, expression appea;s along with smiles and lighting.
13. **Lexicon** –it clearly describes our social communities by means of our own set of words that is understood by us. In this context advertisement 4 has scored highest – 282 with the help of storyline, acting and appeal, where they have scored 40%, 20% and 20% respectively
14. **Nonbelievers:** it clearly specify nonbelievers- advertisement 2 has got the highest score with Story line - 20, Colour/Costumes – 30, Lighting – 20, Facial expression -10, Appeal – 10, Acting – 10
15. **Leader:** It clearly identifies the leader, who convinces the community to buy and use it. It is clearly identified that advertisement 1 can expressively depicted the role of leaders by the help of excellent story line which has the highest score 50%, expression 20%, smiles, appeal and acting having the score of 10% each.
16. **It is recommended that every advertisement, basically in Indian context, must have social and cultural code which can help the target audience to identify themselves with message of advertisement.**
17. If there is no relevant social and cultural code the target audience will not be attracted and as a result of which the product may fail.
18. Main social and cultural code can be coded in to the message by storyline, facial expression, Acting, Lighting, cinematography, smile etc, which gives rise adequate advertisement appeal to convince the audience.

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VOLATILITY AND UNPREDICTABILITY OF THE STOCK MARKET

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ABSTRACT

The degree of fluctuation in the trading prices of individual stocks or the overall stock market index over a given time frame is referred to as stock market volatility. It calculates both the magnitude and the rate of price variations. While low volatility shows that prices are largely constant, high volatility indicates that prices are changing significantly and quickly.

INTRODUCTION

The degree of fluctuation in trading prices over time is referred to as the stock market's volatility. It's basically a measurement of how much a stock's price or the market's price fluctuates. Low volatility denotes more steady and predictable price fluctuations, whereas high volatility shows that prices can fluctuate significantly in a short amount of time.

Market volatility is caused by a number of factors, such as business earnings releases, investor emotions, geopolitical events, and economic indicators. Future event uncertainty frequently causes investors to modify their expectations and trading tactics, which in turn causes volatility to rise.

RESEARCH METHODOLOGY

In the research paper, researcher used primary and secondary data for research. For primary data, researcher used questionnaire and observation for collection of data. For research purpose, questionnaire made and questionnaire distributed online and WhatsApp group. Apart from that researcher is also professor and taking online lectures for students that's why researcher used the observation method for collecting data and some books for collecting secondary data.

Population

Mumbai is chosen as the research area, and a sample of the city's population is surveyed. Many students in Mumbai employed technology. A questionnaire was employed by the researcher to get this population's feedback.

LIMITATIONS OF THE STUDY

In research, researchers used less money for research. A limited sample is selected for research. Only a few questionnaires were made and distributed to a few students. For research purposes, the researcher has very little time and resources to collect data and find a conclusion.

HYPOTHESIS OF STUDY

H0 Market is not high volatile and unpredictable

H1 Market is high volatile and unpredictable

IMPORTANCE OF STUDY

The following are some important ways why stock market volatility is significant:

Volatility is an essential statistic for evaluating the risk of investments. While lower volatility denotes a more stable investment environment, higher volatility signifies greater uncertainty and the possibility of losses.

Investment plans: Depending on the volatility of the market, investors frequently modify their investment plans. For instance, investors may look for safer assets or use hedging strategies to guard against possible losses during times of extreme volatility. On the other hand, investors may employ more aggressive tactics to profit from steady market conditions during times of low volatility.

Market Sentiment: Investor confidence and market sentiment can both be reflected in volatility. While falling volatility may suggest greater confidence and market stability, sharp increases in volatility may imply higher fear or uncertainty among investors.

OBJECTIVES

To identify problems in stock market.

To know volatile and unpredictable market

To s provide suggestion on volatility of market

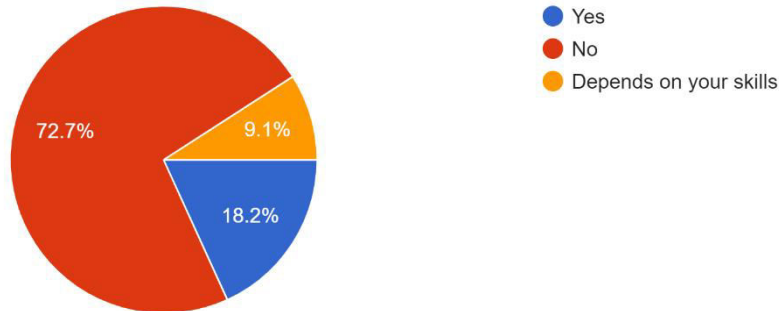
To understand satisfaction level of studies.

To take final decision regarding share market.

To understand more knowledge about share market.

Is Share market give fixed return

11 responses



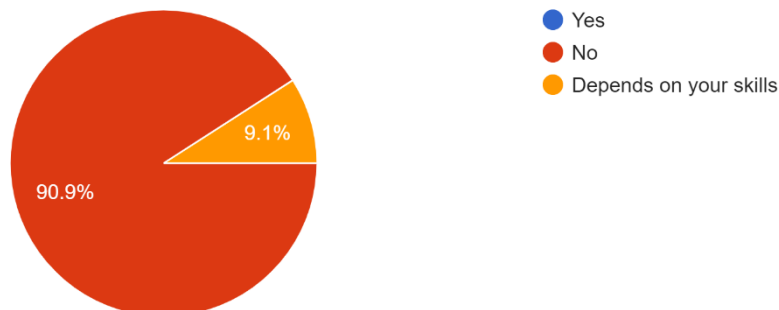
1st chart

In research found 72.7% people are saying no for share market fixed return.

2nd chart

Is Share market give regular profit

11 responses



According to second chart 90.9% people saying no for shares market regular profit .

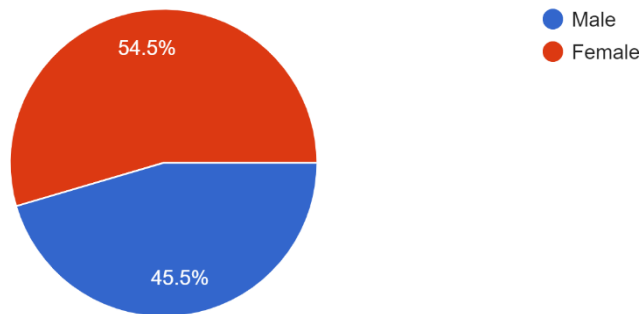
3rd chart

Out of 100% people 54.5% are male and 45.5% are female gave answer it means male are more interested than female in share market. There has historically been a discernible difference in the stock market participation of men and women. In the past, males have invested in equities at a higher rate than women.

Overall, despite historical discrepancies in men's and women's stock market participation, these gaps are steadily closing as financial literacy, resource accessibility, and cultural perspectives on investment change. Promoting increased diversity and inclusivity in the financial industry is advantageous for the general economy as well as for individuals.

Sex

11 responses

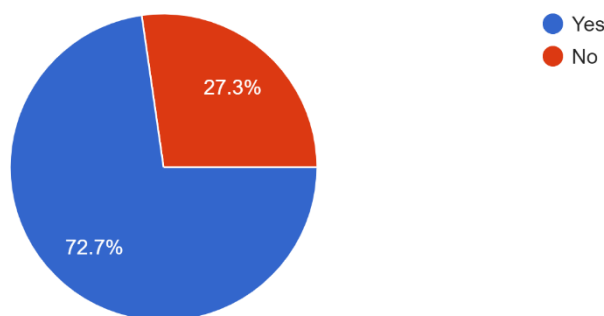


4th chart

According to the chat 72.7% people said yes for unpredictability in share market.

Is share market is unpredictable

11 responses



FINDING

From the survey, the researcher got data from an online survey. According to that data, the researcher found that diversification should be used for profitable share market investment. From the study, H1 HYPOTHESIS is correct for research because the researcher found the market is unpredictable and volatile.

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A STRATEGIC FRAMEWORK FOR IMPLEMENTING CRYPTOGRAPHIC TECHNIQUES IN CLOUD COMPUTING

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ABSTRACT

Cryptography refers to methods of communication and information security that use mathematical perception to transform messages into forms that are difficult to decipher. Along with cryptanalysis, cryptography is closely related to the department of cryptology. It includes methods like using text blended with graphics, microdots, and different approaches to conceal data in transit or storage. The cloud computing providing to users and companies many services and facilities such as less cost, availability and risk management. The services of cloud computing are delivered in pay per usage way and on-demand and it can store huge amount of data. But the security concern is the main reason that makes companies afraid of using cloud computing and store their data on cloud servers. In this paper, we try to review and describe many encryption methods that used to protect data which stored in cloud computing and make a comparison among these methods.

Keyword: -Cloud Computing, cryptography, Encrypt, decrypt, security, cryptoanalysis

1. INTRODUCTION

"Extreme information security" is the art of cryptography. It is severe in that, when an algorithm has processed a message, or database field, it is required to stay safe, even in the event that the adversary gains complete access to the message. Alternative security measures aim to prevent users from accessing the data and usually involve intricate protocols around role permission. When applied correctly, cryptography ensures that all users have complete access to all data while maintaining data security. The act of converting a data message into an arbitrary bit sequence is more well recognised as cryptography. In terms of cryptography features. Plaintext: the data in the decrypted, readable form. Ciphertext: The scrambled output of a cipher. Cipher: Reverse algorithm used on encrypted data to eventually find the plaintext. encryption: The scrambling of plaintext by a cryptographic algorithm. decryption: The unscrambling of encrypted data. Converted to plaintext using the key.

key: Unique code that is kept secret and protected, used during the encryption and decryption of data. The best encryption algorithm for protecting cloud data from hackers was found by comparing a number of encryption algorithms, including Blowfish, Rivest-Shamir-Adleman (RSA) encryption, Advanced Encryption Standard (AES), Data Encryption Standard (DES), and International Data Encryption Algorithm (IDEA), in terms of security, data capacity, memory usage, and time. It is shown by the results that DES, Blowfish, and AES are more secure than RSA and IDEA. Blowfish requires the least amount of memory capacity, but the AES method encrypts a large amount of data quickly and efficiently compared to other algorithms. In this work, we attempt to summarize, compare, and review a wide range of encryption techniques that are used to safeguard data stored in cloud computing.

II. REVIEW OF LITERATURE

Qian Wang et al. suggested using cloud data storage for data security. To do this, a brand-new triple encryption strategy is introduced, which uses IDEA to encrypt the user's RSA private key after DEA is used to encrypt HDFS files and RSA is used to encrypt data keys. They put the triple encryption plan into practice for cloud data storage based on Hadoop.

Gaidaa Saeed Mahdi, suggested to create a straightforward, more reliable, and secure cryptographic method that would also cut down on the overall time needed for encryption and decoding. Using the best aspects of the RC6 and Tiny Encryption Algorithms, the modified algorithm MTEA creates a new 64-bit secret-key block cipher.

Kamara, S., & Lauter, K. worked with infrastructure from public clouds and put out a paradigm that is ideal for using cryptographic primitives to maintain integrity. Only cryptographic storage services serve as the foundation for this method. A user in the suggested process must first generate a master key in order to encrypt messages before they may communicate data to other users.

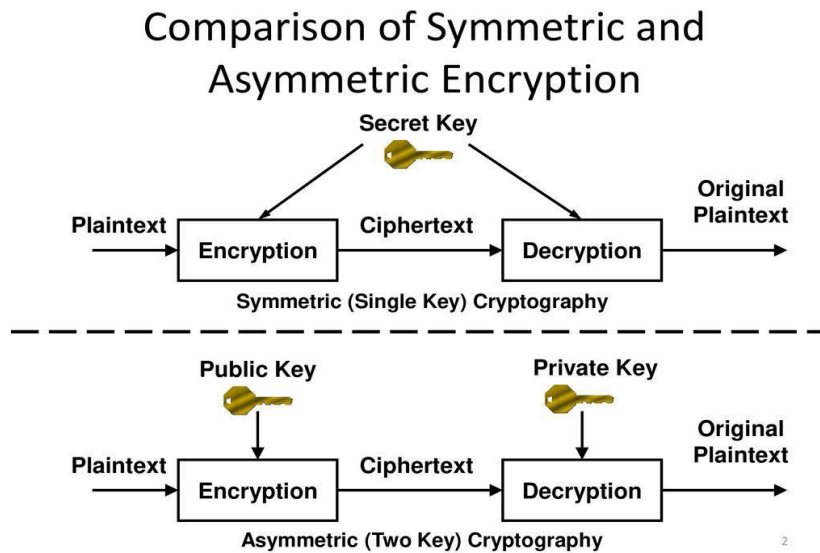
Prasad et al., (2013) In order to decrypt the same message, the secret decryption key is kept on the receiver's computer. Tokens are created using the secret key knowledge and the index encryption principle. With encrypted data, however, the search technique is not very effective. Two types of searchable encryption were covered: symmetric (SSE) and asymmetric (ASE).

Sachdev and M. Bhansali, These techniques provide clients with an effective, adaptable, and safe way to receive data and cloud resource security, but they also increase complexity and make it more difficult to search encrypted data. They also use the Cryptography algorithm to ensure data confidentiality and accuracy.

Khan, et al (2104) authors compared 8 symmetric key algorithms by testing them on 16 NIST statistical tests to select the highest security algorithms. Authors used eight modern encryption algorithms namely RC4, RC6, MARS, AES, DES, 3DES, Two-Fish, and Blowfish. The comparison was based on P-value and rejection rate. They also compared between eight encryption algorithms based on the speed of encryption/decryption to get the faster algorithm. As a conclusion AES was found to be fastest among all which takes least time to encrypt among all and is also the highest security algorithm

III. SECURITY TECHNIQUES

- i. Symmetric key encryption: It is a type of encryption where the same ke is used to encrypt and de- crypt the plain text that results in a cipher text.
- ii. Asymmetric key encryption: Asymmetric key encryption is used where two different keys are generated for encryption and decryption process. One is used for encryption at one end and another for decryption at the other end.



1. DES (Data encryption standard)

A symmetric-key block cipher, the Data Encryption Standard (DES) is released by the National Institute of Standards and Technology (NIST). Given that DES is a 64-bit block cipher, data encryption is accomplished at a single byte level. DES uses an effective key length of 56 bits for encryption; the additional 8 bits are required for parity checks, which have no bearing on data security, even though the key is 64 bits long. After a block of data is encrypted and split into 16 rounds in four distinct modes, the encryption process begins. For each block, a unique cipher text is generated, establishing a dependency relationship with previous key The decryption process reverses the sequence in which all applied keys are used, making it the opposite of the encryption process.

2. AES (Advanced encryption Standard)

Symmetric key encryption, or AES, is employed for security. The original Rijndael encryption operates with any block size that is a multiple of 32 and can accommodate up to 128 bits, although it requires a block size of 128 bits. Nevertheless, there are other options for the key, which is 128,192,256. This gives its structure and security additional flexibility. It carries out the parallel operations of permutation and substitution. Instead than using bits for all of its calculations, AES uses bytes.AES encrypts and decrypts data using a state array, whose rows are utilized for permutation, single byte replacement, column-wise mixing, and round key addition; however, the execution sequence is not the same as stated. As a result, AES interprets a plaintext block's 128 bits as 16 bytes.

3. Blowfish

A symmetric block cipher that works well for data encryption and security is called Blowfish. It is perfect for protecting data since it accepts a variable-length key, ranging from 32 bits to 448 bits. Bruce Schneier created Blowfish in 1993 as a quicker encryption technique than previous ones. Applications where the key is not

changed regularly can use it. Blowfish consists of two components a data encryption component that operates within a 16-round feistel network, and a key expansion component that can expand a key up to 448 bits into a variety of sub-key arrays. where key dependent permutation and data dependent substitution. are included in each cycle. Additionally, iteration rounds of encryption less than compare with other high degree.

4. Twofish

Bruce Schneier's Counterpane Systems created the design for Twofish. This block cipher, which has a bit length of 128 and can accommodate a variable key up to 256, functions effectively with many software and operating systems, including MacBook. For optimal performance and minimal memory usage, its key scheduling procedure is always computed sooner. A fixed 4-by-4 maximum distance separable matrix over GF (2–8), bitwise rotations, a pseudo-Hadamard transform, four key-dependent 8-by-8-bit S-boxes, and a meticulously designed key schedule comprise this 16-round Feistel network with a bijective F function. Numerous trade-offs between speed, software size, gate count, memory, and key setup time are allowed by the design of the round function and the key scheduling.

5. RSA

The public key encryption known as RSA was first described in 1977 and is named for Ron Rivest. Adleman, Leonard Shamir. Two distinct keys—one public and one private—are used in this asymmetric method. While the private key needs to be kept confidential, the public key is meant to be shared with all. With RSA cryptography, a message can be encrypted with either the public or private key; to decode it, use the key that was used to encrypt it. The first step in creating its key is to multiply two large prime numbers to determine the key's modulus. Both the public and private keys use the value that results from these prime numbers. A modulus and a value are stored in the public key.

IV. RESULT

We have compared the above algorithms are the results are compiled as:

	AES	DES	Blowfish	Two-fish	RSA
Security					
Key used	Symmetric key	Symmetric key	Symmetric key	Asymmetric key	Asymmetric key
Memory capacity	Low RAM required	More memory usage as compared to AES	Can execute in less than 5 kb	Execute more than 5 kb	Highest memory required
Execute time	Faster	Requires same time as same as AES	Requires less time	Required more than Blowfish	Requires maximum time
Authentication	authentication provided	Less authentication than AES	Can be compared with AES	Can be compared with AES & DES	Robust authentication

V.CONCLUSION

To Summarize, the protection of private information is one of the most important concerns for companies and their clients in the modern business world. This has resulted in businesses being under growing regulatory pressure to safeguard sensitive information, privacy, and dignity. Consequently, cryptography is quickly becoming the foundation for corporate data protection and enforcement as well as a recommended security practice. After being considered an obscure and specialist area of information security, cryptography is gradually becoming more mainstream. This was true decades ago and remains true today: encryption is the most effective approach to protect data. Major financial organizations and national security agencies have long protected their sensitive data with encryption and cryptography. Making sure IT businesses are ready to take on this transition and are setting the foundation today to meet their future needs is the current challenge in the IT security industry.

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THE EFFECTS OF SOCIAL MEDIA ON DEVELOPMENT OF STUDENTS

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ABSTRACT

The use of social media is incomparably on the rise among students, influenced by the globalized forms of communication and the post-pandemic rush to use multiple social media platforms for education in different fields of study. Though social media has created tremendous chances for sharing ideas and emotions, the kind of social support it provides might fail to meet students' emotional needs, or the alleged positive effects might be short-lasting. There will be implications for pre- and in-service teacher training and professional development programs and all those involved in student affairs. Social Media is an important part of the modern world and there is a need to identify the repercussions of its addiction. Also, prevention and intervention techniques need to be formulated to curb social media addiction in its early stages. It was identified that some of the causes of social media addiction were early exposure to technology

Keywords: social media users, social media addiction, post-pandemic, Mental Health, Well-being, Psychological

INTRODUCTION

Social media has over 4.95 billion users around the world which indicates that on average, 6.8 new users are joining social media every single second. Social media is defined as digital platforms and technologies that allow users to participate in the creation, sharing, and exchange of information, ideas, and content in online communities, such as Facebook, YouTube and Twitter. It is most commonly used for keeping in contact with family and friends and is often used as a source of entertainment as well. The COVID-19 pandemic has further turned Social Media into a major communication tool because of its convenience and affordability. Social media consists of digital platforms that allow internet users to communicate with one another and share content online publicly or within their own community. It may be impossible to curb and prevent students from using social media at an early age, therefore it is important to ensure that these mediums are not being misused and are not causing adverse effects on the development and well-being of children. Internet addiction can induce behaviour like compulsive usage, withdrawals, and lack of autonomy over one's actions. These behaviours are similar to other kinds of addictions. Studies show that there are no known physiological effects of social media addiction but excessive social media usage intervenes in the day-to-day activities of the users, altering their usual work patterns of students. Addiction is commonly associated with drugs, smoking and gambling but a person can be addicted to anything and be distressed or be in physical or mental distress when attempting to quit that activity. Social media addiction may have its own adverse effects, except that they are more behavioural and may cause the addicted person to impulsively browse these digital channels. Social media addiction is closely linked with humans' there is a need to investigate the psychological effects of using social media on students' development. It usually leads to reduced productivity, reduced academic achievement, of students' development and addiction to constant media use.

OBJECTIVE OF THE STUDY

The psychological effects of social media on student life need to be studied in more depth to see whether social media really acts as a social support for students and whether students can use social media to cope with negative emotions and develop positive feelings or not. In other words, knowledge of the potential effects of the growing use of social media on students' emotional well-being can bridge the gap between the alleged promises of social media and what it actually has to offer to students in terms of self-concept, self-respect, social role, and coping strategies (for stress, anxiety, etc.).

IMPACT ON MENTAL HEALTH

Mental health is defined as a state of well-being in which people understand their abilities, solve everyday life problems, work well, and make a significant contribution to the lives of their communities. On the other hand, social theories found how social media use affects mental health by influencing how people view, maintain, and interact with their social network. A number of studies have been conducted on the impacts of social media, and it has been indicated that the prolonged use of social media platforms such as Facebook may be related to negative signs and symptoms of depression, anxiety, and stress. Furthermore, social media can create a lot of pressure to create the stereotype that others want to see and also being as popular as others. Similarly, Ley et al. (2014) described that people who spend 2 h, on average, on social media applications will face many tragic news, posts, and stories which can raise the total intensity of their stress.

THE NEED FOR A SYSTEMATIC REVIEW

This paper attempt to systematically review all the relevant literature with the aim of filling the gap by examining social media impact on mental health, which is sedentary behavior, which, if in excess, raises the risk of health problems .This study is important because it provides information on the extent of the focus of peer review literature, which can assist the researchers in delivering a prospect with the aim of understanding the future attention related to climate change strategies that require scholarly attention. This study is very useful because it provides information on the extent to which peer review literature can assist researchers in presenting prospects with a view to understanding future concerns related to mental health strategies that require scientific attention. The development of the current systematic review is based on the main research question: how does social media affect mental health. Because social media is a relatively new phenomenon, the potential links between their use and mental health have not been widely investigated.This research was conducted to identify studies analyzing the role of social media on mental health of students development.

DISCUSSION

The body of research on the effect of social media on students' affective and emotional states has led to mixed results. The existing literature shows that there are some positive and some negative affective impacts. strategic use of social media or its addictive use by students can direct them toward either positive experiences like enjoyment or negative ones such as anxiety and depression. Also, these mixed positive and negative effects are similar to the findings of several other relevant studies on general populations' psychological and emotional health. The prominent risk factors for anxiety and depression emerging from this study comprised time spent, activity, and addiction to social media. In today's world, anxiety is one of the basic mental health problems.

LIMITATION AND SUGGESTION

The limitations and suggestions were identified by the evidence involved in the study and review process. despite the fact that the proposed relationship between social media and mental health is complex deeply investigations are required to clarify the underlying factors that help examine why social media has a negative impact on some peoples' mental health, whereas it has no or positive effect on others' mental health.

IMPLICATIONS OF THE STUDY

The use of social media is ever increasing among students, both at school and university, because of the technological advances in communication services. It has increased use of social networks for educational purposes in recent years after the pandemic. The researcher had diagnosed symptom of distress in students development influenced by an excessive use of social networking. students' mental and emotional health also get effected by the pervasive use of social media. As a result, they might feel anxious or depressed. because of social media, these negative emotions can be replaced with positive emotions if learners become aware of the psychological effects of social media. Regardless of social media for learners, they can take advantage of the potential of these media such as improving their literacy, broadening their communication skills, or enhancing their distance learning opportunities.

SUGGESTIONS FOR FURTHER RESEARCH

Studies on this topic is to find out potential effects of social media usage on students' psychological well-being and mental well-being. the effects of social media on student psychology development and negative effects of popular social media like Facebook, Snapchat, Twitter, etc., on students' mental conditions. There is also needed more research in different contexts and cultures to compare the overall students psychology development results. There is also a need for further research on the higher education students and how their affective development conditions are positively and negatively affected by the prevalent use of social media.

FINDING

From the survey researcher got data from students. According to that data, researcher found students are more comfortable with online lectures but students feel offline lectures is more knowledgeable. Due to online lectures, students seat home and take education through phone and computer. It gives more comfort to students but that cannot give more knowledge to the students and take away attention of students. Online lecture does not give more knowledge but give comfort of students. For taking of knowledge students give more preference of offline lecture.

CONCLUSION

A review of the research findings on the relationship between social media and students affective both positive and negative findings. Teachers education policymakers curriculum developers and all those in charge of the student affairs at schools and universities should be made aware of the psychological effects of the continue use of social media from students, and the potential threats. Considering the availability of social media in

everybody life including student life worldwide, it seems that more coping and compensatory strategies should be needed to moderate the adverse psychological effects of the continue use of social media on students mental and development health. Social media is a new study that is rapidly growing and gaining popularity. This systematic review has found that social media envy can affect the level of anxiety and depression in individuals. In addition, other potential causes of anxiety and depression have been identified, which require further investigation. The importance of such findings is to facilitate further research on social media and mental health. The findings of this study suggest that potential causal factors from social media can be considered when cooperating with patients who have been diagnosed with anxiety or depression.

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IMPACT OF COVID-19 PANDEMIC ON INDIAN AGRICULTURE A REVIEW

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ABSTRACT

The rise and spread of Covid-19 pandemic affected all parts of the human society by creating massive socio-economic panic across all the sectors including agriculture, tourism, commerce, shipping, manufacturing and tertiary sectors across the world. The agricultural and food sector were considered as the most crucial part of the developing economics across the globe, which was completely exposed during the Covid-19 pandemic. It has an undesirable and prominent influence on agriculture and allied sectors in India. The pandemic lockdown has resulted in the agrarian crisis across the nation by influencing and disrupting the food demand, food supply and value chain of various agricultural goods and commodities. In the country like India where majority of the population, approximately 140 million, depends directly or indirectly on agriculture and food sectors as the primary source of their income the impact due to the Covid-19 pandemic created an imbalance and affected the economy of the nation. Containing an analysis and detailed review based on articles, scientific reports, publications, organizational statements, and press releases, this review article addresses an inclusive assessment and highlights the effects of Covid-19 pandemic on agriculture and food systems. An effort has been made to understand its impact on food supply, food demand, food prices, food security and national economy. The need of the hour is to promote effective solutions in order to control critical factors such as food production, food supply, food demand, price hikes, food security and supply chain resilience. Since the urbanization and population will have tremendous growth in the coming decades, epidemics may be more frequent and we need to ensure contingency plans and mitigation strategies, especially for agricultural and food systems.

Keywords Covid-19; Agriculture; Food supply chain; Food security

INTRODUCTION

In China, the first confirmed case of SARSCoV-2 (Covid-19), chronic respiratory infection, was reported in Wuhan, the capital of Hubei Province, in December 2019 (Singhal, 2020). On January 12, 2020, WHO named this new virus as the 2019 novel corona virus (2019-nCoV) (Lu, Stratton and Tang, 2020; Lu et al., 2020). On confirming SARS-CoV-2 cases in Wuhan, Chinese authorities declared a lockdown in the city to constrain the spread of the disease to other cities and countries (Lv et al., 2020). The spread of viral infection to other countries and states was caused by immigration and emigration of various infected people from China to other countries and provinces (Steffens, 2020). The Corona virus disease (Covid-19) is a relatively new strain that was reported in 2019 and was not previously recognized by humans on Earth. As of 7 April 2020, the Covid-19 had infected more than 1.2 million people, killed more than 72,000 and spread across the world (WHO, 2020). The World Health Organization (WHO) on 30 January 2020 declared the Covid-19 spread as a Public Health Emergency of International Concern (Team, 2020). The recent outbreak of the virus rapidly spread across the world, and the World Health Organization (WHO) declared it as global pandemic in March 2020 (Cucinotta and Vanelli, 2020). Compared to the various previous epidemics that the world has suffered from, Covid19 has been viewed with alarming conditions seriously affecting public health and quarantine recommendations for its detrimental effects on human enterprises and productivity, disrupting national and global economies (Hanashima and Tomobe, 2012). The Covid-19 pandemic is often referred to as the “Black Swan Event”, which happens as a miracle incident not considered occurring normally and these events were distinguished from its previous incidents of greatest incompatibility and acute illnesses (Trevino, 1986). The rapid rise and spread of Covid-19 along with its several detrimental consequences induced pandemic control through territory lockdowns, travel and tourism bans, social distancing and many other restrictions that are imposed on the people’s movements and migrations affecting adversely the economy of all countries across the globe. Worldwide, the pandemic has prominently affected food systems, food supply particularly agricultural inputs and output markets, food processing, food value chains, food demand, consumer economy (Mehroliya, Alagarsamy and Solaikutty, 2021) and unemployment, in return, aggravating poverty, and food and nutrition insecurity. The FAO report, “State of Food Security and Nutrition in the World”, estimates that the Covid-19 pandemic could add about 130 million people worldwide suffering from chronic hunger and malnutrition in 2020 (FAO et al., 2020). The main aim of the lockdown was to restrain social interaction and mobility of individuals. The restricted ability for movements also limits the ability to gather a large mass of individuals in an area with a relative high density of consumers and retailers such as shopping centers, malls, town centers, etc., preventing unprecedented public health concern leading to social and economic crises (Kraemer et al.,

2020). When there is an outbreak of contagious disease, it results into starvation and famine at a higher rate (Burgui, 2020). The Covid-19 pandemic would almost certainly have a global economic effect unlike anything seen since the Great Depression of the 1930s (He and Harris, 2020). India is a diversified country having high population density of more than one billion, contributing 18 per cent to the world's population, which makes it second most populous country in the world. The adverse impact of communicable disease such as Covid-19 is severe in India as compared with other countries. The first Covid-19 positive case was identified in Kerala in India on 27 January 2020. Since then, it started spreading at an alarming rate. In order to prevent its spread, the Government of India had announced a nationwide lockdown on 24 March 2020. The lockdown had adversely affected all the segments of the Indian society. Agriculture is one of the priority sectors severely affected by the lockdown. If a nation's agricultural sector is confronted with challenges, the population's well-being will be affected (Tambi et al., 2021). The strict lockdown measures resulted in the restrictions of major economic activities such as production, exports, commerce, logistics, processing, manufacturing, etc., thereby, affecting food supply, food demand, food prices and supply value chain leading to enormous uncertainties with respect to economic growth and socio-economic livelihoods of people

METHODOLOGY

This paper is based on the desk review of recent data on Covid-19 pandemic concerning agriculture, including various published and unpublished literature from different sources along with web-based resources. The method involves reviewing the published and unpublished research articles to determine the impact of Covid-19 pandemic on agriculture and its critical consequences around the world. Google Scholar and Research Gate were the primary databases used for obtaining comprehensive and systematic data from various journals, articles, conference proceedings, scientific reports published by different organizations, and the books. The information collected was systematically analyzed for logical discussion and conclusion.

Results and Discussion Current Scenario of Indian Agriculture Agriculture is the prominent sector of the Indian economy. It contributes nearly one sixth to the Indian national income that is about 17 per cent to the country's GDP and also provides employment opportunities to over 60 per cent of the population directly or indirectly associated to agricultural sector in India. The estimated annual growth (in real terms) from 2014–15 to 2018–19 in agriculture and allied sectors was 2.9% (Government of India, 2020). In terms of the world's agriculture, India produces more than one-fifth of global production of paddy and pulses. Similarly, it contributes to more than 20 per cent of global production of many horticultural crops such as okra, cauliflower, banana, mango and papaya (FICCI, 2020). It acts as the priority sector helping in ensuring food security of the nation along with influencing the growth and development of secondary and tertiary sector of the economy. While the Indian economy contracted by 23.9% in the first quarter of 2020–21, agriculture was the only sector to register a positive growth of 3.4% (ET, 2020). Agricultural growth and development help in enhancing agricultural production and productivity, thereby, reducing poverty directly by raising farm incomes and indirectly by creating employment opportunities, reducing food prices, increasing per capita food availability and ensuring food security (NABARD, 2020). More emphasis on agriculture sector promotes development of the economy. In other words, a flourishing agricultural sector is a boon for most other sectors of the Indian economy

The nationwide lockdown across the country has severely affected the production and supply of goods and services that are inadequate to meet the existing demand. Many economic units are on the verge of shutting down; people became unemployed by losing their jobs and wages. When lockdowns are imposed, people are restricted to venture out to purchase various goods and services resulting in reduced consumption along with lower demand (FICCI, 2020). The Covid-19 pandemic has adversely affected the agricultural sector since the farmers had faced a lot of difficulties in every aspect of farming involving production process such as purchase of inputs due to delays in transport and logistics services especially at ports causing smallholders to suffer farm losses (Okolie and Ogundeji, 2022), sowing, accessing labor, harvesting, processing, marketing and exporting of agricultural commodities (NABARD, 2020). The impacts of the pandemic on agriculture and food systems resulting in the instability caused by a shock and related behavioral modifications leading to occasional price spikes, market supply disruptions, and food shortages.

Impact of Covid-19 Pandemic on Sectors of Agriculture Sector.

Impact Production Non-availability of raw inputs Increase in cost of production Shortage of labor and farm inputs (seeds, fertilizers, agrochemicals, farm equipment, etc.) Demand deficit Wastage of food due to improper food management (perishables and semi-perishables) Processing Shutting down of the units Lack of adequate supply of raw materials Low demand due to lockdown Low income and unemployment of employees Inflation in price of raw commodities Retailing Panic buying among consumers Shortage of food products Disruptions in demand and supply Inaccessibility of goods and services Logistics and storage facilities Consumption Change

in consumer consumption pattern Food insecurity for lower income groups Change in consumer behavioral pattern Low purchasing parity Change in consumers preference. The disruptions in the demand and supply chains lead to the shrinking market facilities and falling output prices. With respect to a consumer, it can lead to uneven rise in retail prices. Consumers are adversely affected with the access to adequate quantities of food at reasonable prices. The absence of adequate quantities of food caused by either demand slowdowns or supply shocks resulting in abrupt hikes in retail food pricing leading to the rise in hunger, malnourishment and nutritional insecurity particularly among the vulnerable groups. In the agriculture and food sector, the various demand and supply factors translated into some types of impacts (Lusk, 2020). The various factors affecting agricultural production such as shifting of consumer demands due to income shocks, reduction in the need for high value food products results into enhancing food insecurity (Amare et al., 2020). The epidemic has affected the livelihood and intensity of farmers' adoption of sustainable agricultural practices (SAP) (Martey et al., 2022). Disruptions in the food supply and value chain are more acute especially for perishable items like fruits and vegetables (Mahajan and Tomar, 2020). The pandemic is severely influencing the food and agricultural supply chain in three big perspectives that include food supply, food demand and food prices (FAO, 2020a). Thus, the impact of Covid-19 pandemic has tremendously affected three major components of agriculture and food sectors that include food supply, food demand and food prices as illustrated in figure 1 and that are closely associated with eradication of poverty, hunger, nutritional security and promoting national food security.

The food supply involves certain activities such as farming, harvesting, processing, and its distribution for the purpose of marketing such as whole selling and retailing. Food supply needs a time-bound action and implementation in order to achieve optimum quality of goods and services. In order to optimize production, quality agricultural inputs are required such as seeds, fertilizer, agrochemicals, etc. During the Covid-19 pandemic, the nationwide lockdown resulted in transportation restrictions, closure of industries and international borders affecting input supplies across the nation (Aday and Aday, 2020). The shortage of labour was observed because of their migration to hometowns in order to mitigate the pandemic conditions (Nandi and Swamikannu, 2020). A survey reports that 45% of the migrants returned home during lockdown (Imbert, 2020). The closing of the various national and international borders was a strategy used by many countries in order to control the risk and spread of contaminants. Although various production activities of major staple crops are being highly mechanized in the developed nations are not affected adversely whereas the more labour-intensive crops such as fruits and vegetables require huge involvement of work force and human labour, thus, being more vulnerable to the effects of Covid-19 (Laborde et al., 2020). Manufacture, reining, distribution and transportation are the various activities which altogether act as the fragments of the food supply associating with the farming landscape to the user's table. Ensuring food supply does not get disrupted and it strives to flourish well (Chen et al., 2020). The Covid-19 pandemic outbreak resulted in enforcement of corresponding preventive lockdowns that acted as a new challenge. During the first and second quarters of 2020, food supply chains were outlined production and transportation fell sharply and household income was adversely affected (FAO, 2020a, 2020b, 2020c, 2020d). Many other worldwide efforts have been made in order to control the pandemic by restraining movement and interactions of people resulting in negative economic effects linked with the functioning of agricultural systems responsible for food supply (Siche, 2020; Timilsina et al., 2020). The international trade of agricultural goods and commodities almost came to a halt whereas the domestic trade networks were severely affected due to the lockdown. Due to the travel restrictions, the movement of goods from the farmer's fields to the nearest market was affected. Thus, the disruptions in food supply and logistics during the pandemic remained acute. As accurate forecasting of food supply became difficult, various firms became risk-averse due to the bullwhip effect where the supplies declined far more than that was necessary.

Impact of Corona Virus (Covid-19) on Food Demand The demand for the food depends on the mindset of the customers or consumers who further depend on certain attributes such as their socio-economic conditions, patterns of consumption, consumer's attitude, behaviors etc. along with various other environmental conditions, such as drought, flood, ecological disturbances and Covid19 pandemic affecting significantly the food demand. Food demand can be addressed as consumer's interest and abilities to purchase specific goods and services within a given time frame (Gottheil, 2013). The demand for the food depends on the price of food stuffs, income level of the consumers, socio-demographic situation, consumption pattern, shopping preferences and time constraints (Bakalis et al., 2020; Cranfield, 2020). During the initial phase of Covid-19 pandemic, consumers did resort to panic buying and stockpiling of food items during the lockdown in March 2020. Large-scale stockpiling of foods affected the recurrent stock outs leading to uncertainty over the availability of essential food products in the future as a cause of panic buying (Keane and Neal, 2021). Many consumers hoarded basic food items during the pandemic along with cleaning and sanitary products to ensure the availability of grocery essentials when required (Castelló and Casasnovas, 2021). It has been studied that stockpiling is driven by the expectations over future price fluctuations (Mela, Jedidi and Bowman, 1998).

Similarly, at further phase there was steep fall in the demand for food items due to the loss of jobs, accessibility and unemployment. The huge reduction in demand for eatery and commercial food services due to certain factors including handling of foods, production capacity of food along with other agricultural products that have an adverse influence on the farmers output reduction (Brewin, 2020; Ceballos, Cranfield, 2020; Kannan and Kramer., 2020; Poudel and Subedi, 2020). On a general basis there was an uneven distribution of food resulting in shortages of some foods in certain areas and oversupply of certain other foods in Impact of Corona Virus (Covid-19) on Food Prices The demand and supply of major agricultural commodities declined in India after the lockdown. The challenges in the food demand and supply chains during the Covid-19 pandemic resulted in the fluctuations in prices of various agricultural goods and commodities. Major studies were done on demand and supply shocks and are analyzed along with price movements in agriculture after the lockdown (Narayanan and Shah, 2020; Rawal and Verma, 2020). The major cause for the price inflation during Covid19 outbreak involves the demand for food, panic purchase, hoarding and back stocking of goods. Other factors affecting may include shortage of labourers, shutting down of food processing plants, inefficient marketing platforms, disruptions in the global supply chain due to travel restrictions (Sen, 2020). The gap between the wholesale and retail prices of various agricultural commodities increased during the lockdown which may be due to demand collapse or overwhelmed supply shocks. Many consumers may also expect prices to rise in the near future when a supply shock is seen but retail prices are yet adjusted in upward trend (Jaravel and O'Connell, 2020). Fluctuations in food prices are obvious consideration in the underdeveloped and developing countries constituting of both income of farmers and purchasing parity of the consumers (Bellemare, 2015; Barrett, 2020). The selling cost of major agricultural goods and commodities has increased due to constraints in logistics associated with the pandemic (Hahn, 2020). Therefore, various stringent measures such as increase in the communication networks and strengthening logistics facilities are the key factors in establishing efficient food supply chain system, market access and promoting economic stability. Impact of Corona Virus (Covid-19) on Food Security Food security can be explained as a process of ensuring the availability and accessibility of optimum quantity of nutrient-rich foods to various communities. It describes about how foods are handled, prepared, and stored following various protocols for effective food control systems, which are essential for protecting consumers health and safety. The primary goal of food security is to ensure enhancements in food accessibility in order to enable adequate food distribution starting from the households to low-income line. Food security refers to an individual or groups who have unlimited access to healthy food sufficient to improve their living conditions (Rosales and Mercado, 2020). The potential impact of Covid-19 pandemic on food security can be further summarized in the form of distortions in food supply and demand, uneven hike in food prices, unemployment, poor economic conditions, low investments in the agriculture and food sectors, thereby, affecting government expenditures and financial assistance towards the farmers growth and improvement (Udmale, Pal and Szabo, 2020). According to the Food and Agriculture Organization (FAO), about 135 million people across the world were experiencing extreme levels of food insecurity before the pandemic outbreak (FAO, 2020a). The Covid-19 pandemic outbreak has a detrimental impact on agricultural food systems affecting major food supply chain and disrupting food security in the economically vulnerable region around the world (Alvi and Gupta, 2020; FAO, 2020c; Schmidt, 2020a). In a postpandemic scenario, the World Food Programme (WFP) has forecasted that the number of individuals facing acute food insecurity may rise from 135 million to 265 million (WFP, 2020). Thus, the food security was adversely affected during the Covid19 pandemic outbreak that can be mitigated through policy reforms, financial growth and nutritional assistance programs. . The government can opt for a staggered procurement and pricing strategy that accounts for the threshold level in cost of storage (Sendhil et al., 2020a). It can also be useful to tackle other crises in the future such as natural disasters, financial recession, global pandemic, etc., thereby, optimizing food security for national growth and economic prosperity

CONCLUSION

The Covid-19 pandemic crisis has started a new era in the agriculture and food industry. It has created several challenges in the agriculture and food ecosystem worldwide. It has affected major areas of production, processing, food supply chain, dietary changes, logistics, etc. along with national economy and food security. In order to retain its rise and spread, stringent measures were adopted such as restrictions in movements, social distancing, quarantine measures that posed huge barriers in transportation, disruptions in value supply chains, economic growth and sustainable development in agriculture and food sector. The pandemic has shattered economic prosperity, food securities, government policies, world commerce and financial markets. However, the disruption of the food systems opens up to opportunities to connect local production and consumption (Blay-Palmer et al., 2021). It has created new interventions in the food business, food handling, agriculture and food supply chain network which we have never seen previously (Galanakis, 2020). Furthermore, the Covid-19 pandemic complex vagaries adversely affected economically vulnerable communities across the world in the most impulsive ways requiring an effective understanding along with mitigation and coping strategies to

overcome the consequences. The Covid-19 pandemic has created wide havoc in agriculture and food sector by disrupting supply and demand value chain, low inputs, loss of job, reduced household incomes, higher retail prices, etc. In order to tackle the situation, a diverse set of agriculture and food related measures were adopted by governments in response to the agrarian crisis with major concern on agricultural production, functioning of the food chain and consumer demand. The impact of COVID19 on the Indian agricultural system enabled us to arrive at a 10-point strategy for strengthening the sector against the crisis and sustainability issues (Workie et al., 2020). During the peak period local governments were highly vigilant and responded promptly by providing quarantine facilities to the returnees along with distribution of health and ration kits for vulnerable families (Thapa, 2022). The post-2020 context has revealed some transformations which paved the way for agri-food systems to operate (Snow et al., 2021). Along with input subsidies and farm loans, measures such as empowering farmer's access to latest technological interventions can also be taken into account (Demont, Fiamohe and Kinkpé, 2017). Considering farms as micro-systems nested within the larger agricultural systems which can support farmers to deal with uncertainty, being essential in becoming resilient (Slijper et al., 2022). Thus, one of the vital lessons that can be learnt due to the outbreak of the virus would be building a resilient supply chain management and food system. Resilience is about the capacity of a system to live with complexity, uncertainty, and (abrupt or incremental) change, and to ensure continuity in ever-changing environments through adaptation and transformation (Folke et al., 2021). Major reforms in the agricultural marketing and distribution systems along with e-commerce will boost farmers' income. Government efforts are needed to identify gaps and bring desired changes in order to avoid further economic and nutritional disparities. Special government funds and emergency food rations such as PDS (public distribution system), work guarantee schemes (e.g., MGNREGS1) and supply of agricultural inputs can play a prominent role if mobility and supply chains are severely disrupted. Additionally, accessibility and functioning of e-National Agricultural Markets, quick and hassle-free direct payment through banks, enabling contract farming, farmer producer companies (FPCs) and logistics like scientific storages at grassroots level along with food, income and job safety net for the poor and needy during lockdown are helpful. On the policy front, facilitating agricultural reforms by promoting transfer of technology directly to the farmers and addressing their grievances supported by the researchers, scientists and farmers together along with new initiatives such as Aatma Nirbhar Krishi (self-reliant agriculture) will enable the economy to transform into a powerhouse of food production and distribution providing sufficient insulation and shock absorption to the vulnerable groups. Innovations such as development and introduction of new products and services, introducing new financial schemes, family farming, community farming, roof top farming, hydroponics, digitalization, etc. will address the modern challenges in agricultural sectors moving a step ahead towards resilience and sustainability.

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ANALYSIS OF RECRUITMENT AND SELECTION PROCEDURE OF VARIOUS MNCs IN INDIA**Sadhana Mishra**

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ABSTRACT

Recruitment and selection are two major important aspects of the recruitment process that enable companies to find and attract the best talent. Recruitment should begin with input from as many people as possible. Recruitment is considered the process of identifying potential candidates and ensuring that they apply for a job. Recruitment is considered an active process designed to attract as many applicants as possible to fill open positions. The selection will narrow down resources until the best candidate for the job is found. Selection is the process of identifying the best candidates from a pool of applicants. Analyze the recruitment and selection processes of Indian multinational companies (MNCs), including understanding the strategies and practices adopted by these companies to attract and select talent in the Indian market. Companies can use job boards or job exchanges to post job descriptions and begin receiving applications from candidates. In this paper will discuss about the recruitment and selection procedure of various MNC,s companies in India .

Keywords: Recruitment, selection, multinational companies, MNCs, talent acquisition, job boards, job descriptions, hiring process.

OBJECTIVE OF THE STUDY

Analyzing the recruitment and selection procedures of various multinational corporations (MNCs) in India involves examining their methodologies, practices, and objectives. Here are some common objectives of MNCs when it comes to recruitment and selection in India.

1. To study and analyze the Recruitment and Selection process followed at multi National company
2. To analyze the satisfactory level of the employees about Recruitment and Selection procedure of an organization.
3. To study recruitment and selection methods at Multi National company.
4. The primary objective of the study is to analyze the process of Recruitment and Selection in the industries.
5. To observe the procedure to select the candidates from internal as well as from external sources in the industries

INTRODUCTION

Recruitment and Selection is an important operation in HRM, designed to maximize employee strength in order to meet the employer's strategic goals and objectives. In short, Recruitment and Selection is the process of sourcing, screening, shortlisting and selecting the right candidates for the filling the required vacant positions. As the global economy and competition increases, looking at human resources as a potential source of competitive advantage and employee turnover. Population characteristics an donation-receiving trends have become a top concern for business. The government supports the nation. While the number of applicants may not be a big issue, finding the right candidates is a top concern for many employers. Recruitment is based on IT processes. However, most studies rather than compare different jobs, examine employment and selection, especially in India companies across a wide range of employees organizations face many challenges when adopting international options. ignoring such concepts will lead to disengagement Therefore, companies in different countries need to understand how recruitment and selection will be done in the country they want to enter. Foreign companies in India are confident that investments in the country will accelerate as foreign direct investments increase and the domestic economy grows. Clearing the gap between reputation and choice.

LITERATURE REVIEW**Definition of Recruitment**

According to Edwin Flippo –

Recruitment is the process of searching for prospective employees and stimulating them to apply for jobs in the organization.

According to Werther and Davis –

Recruitment is the process of finding and attracting capable applicants for employment. The process begins when new recruits are sought and ends when their applications are submitted. The result is a pool of applicants from which new employees are selected.”

Recruiting is a process of discovering potential candidates for the actual or anticipated organizational vacancies. Or from another perspective, it is a linking activity-bringing together those with jobs to fill and those seeking jobs

Definition of Selection

The purpose of selection is to pick up the right person for every job.

According to Dale Yoder-

“Selection is the process in which candidates for employment are divided into two classes-those who are to be offered employment and those who are not”

Heinz Wehrich and Harold Koontz have defined,

“Selection is the process of choosing from the candidates, from within the organization or from outside, the most suitable person for the current position or for the future positions”.

So we can conclude that, it is the process in which candidates for employment are divided into two classes; those who are to be offered employment and those who are not. So we can conclude that, it is the process in which candidates for employment are divided into two classes; those who are to be offered employment and those who are not.

What are interview methods in research?

Interview methods in research are different approaches you can use to conduct effective research interviews. Many researchers interview subjects as part of their research process. Conducting interviews can allow you to gain insight into the behaviors, attitudes and opinions of individuals.

7 INTERVIEW METHODS IN RESEARCH**1. Focus group**

A popular method of interview research is to conduct a focus group discussion that involves a group of people being interviewed at the same time. Facilitators of focus groups often encourage participants to talk and monitor the group to learn about real thoughts and feelings.

2. Structured interview

Interviewing models is another option. In general, closed-ended interviews, that is, questions to which the respondent can answer “yes” or “no.” The interviewer usually asks all interviewees the same questions in the same way.

3. Unstructured interview

An informal interview, also known as an informal interview, is the opposite of an interview. In unstructured interviews, the interviewer does not ask standard questions to each participant. In contrast, interviews should not rely on open-ended questions that encourage answers longer than a simple "yes" or "no."

4. Semi-structured interview

You can use semi-structured interviews, which are structured and unstructured interviews. Although interviewers may follow a general plan and list of questions, they are generally flexible. This allows the interviewer to be creative in obtaining the necessary information for the study.

6. Phone interview

You can also conduct an interview by phone. A phone call is an easy way to collect answers.

This interview method is also inexpensive and ideal if you want to gather information quickly without spending a lot of money.

7. Online interview

Online interviews are another type of research interview. Online interviews may include surveys or video interviews. In this way, the interviewer and the interviewee do not need to be in the same place at the same time. This allows you to quickly find information on a variety of topics.

Research on Recruitment & Selection Practices

Research on recruitment and selection practices is a broad and dynamic field within human resource management. It encompasses studies conducted by academics, consultants, and practitioners to understand and improve the processes of attracting, assessing, and hiring talent. Here are some key areas of research within this domain:

6 steps in the recruitment and selection process from HR prospective

- ❖ Reception
- ❖ Screening Interview
- ❖ Application Blank
- ❖ Selection Tests
- ❖ Selection Interview
- ❖ Medical Examination
- ❖ References Checks

RESEARCH METHODOLOGY

A research method is a method of solving a research problem. It involves collecting data using statistical methods, interpreting research data, and drawing conclusions. According to the purpose of this study, data was collected from different sources.

Data collection

Data generally refers to information, observation or experimentation, or the collection of information obtained from a source. This may include numbers, words or images, especially measurements or written observations.

Data Sources

There are two types of data sources available to this research processes.

- **Primary Data**
- **Secondary Data**

Primary Data

The primary data is collected by using primary methods such questionnaires, interviews, observations etc. For this study questionnaires are used to collect primary data from the employees of the industries.

Although some results have been reported in recruitment and selected studies and provide some guidance needed for further research in large companies, especially small and medium-sized companies, we know little about how and why organizations choose to use these different strategies. The research method was the questionnaire that was distributed to 120 people on the internet. The questionnaire had as main objective the observation of the HR and candidate perception on the subject individualized Selection and recruitment. The questionnaire contained various scenario or with the presented statement and where they fully agree with the statement or with the scenario. The sample contained candidates from different age groups with different levels of education and employment, so that our research could be valid and comprehensive. The analysis is based on the average values and they are used in order to make comparisons between age groups/differences, education level, gender and income level, as well as comparisons between groups, demographic groups.

Secondary Data

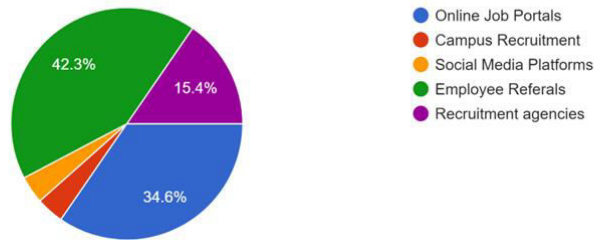
Data gathered from a supply that has just been distributed in any shape is known as elective information. The survey of writing in any exploration relies upon optional data methods of gathering Such data are web, books, papers, magazines, diaries and different similar periodicals.

Apart from primary data, the data is also collected through:

- Indeed
- Journals
- Academics Reports
- Websites

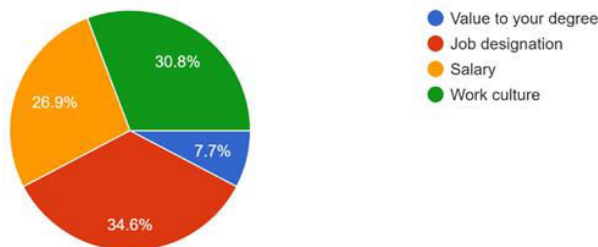
DATA ANALYSIS AND INTERPRETATION

How did the HR connect you or how did you get the information of Job Vacancy



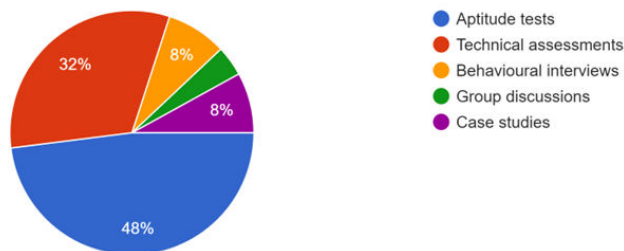
According to the data collected the information states that mostly HRs connects to the candidates through Employee referrals.

What made you join this company?



According to the data collected most of the candidate prefer “Job Designation” to join the individual organization

What assessment method do you believe MNC's commonly use during their recruitment process in India?



According to the data collected most of the MNC’s commonly use Aptitude test as there recruitment process.

Overall survey tells us that MNC’s uses such techniques to find out the perfect Usually, many MNCs recruit experienced professionals through references of their own employees. The reason is simple, their employees are the ones they are observing regularly and based on that they know who is going to refer the suitable candidates to them. Coming to interviews, no matter if you are referred or applied without reference, the process is same for all. However, there is slightly higher possibility that they will prefer the referenced candidate over you as they know the employee who has referred him/her. It is good idea to have known resources in your company than unknown which may lead to ego problems. Now the question to answer straightly, they conduct interviews to show the scope of their companies and this ultimately shows that they are increasing their strength to the clients. You can say to have good impact. Normally, they hire freshers through interviews and not references. Freshers are meant to only show the higher headcount to their clients. And if they did not want to hire from outside, they would never publish ads for it.

FINDINGS, SUGGESTION & CONCLUSION**FINDINGS**

Here are the key findings of the analysis of recruitment and selection procedures in various MNCs operating in India, presented in bullet points:

- ✓ **Diverse Recruitment Strategies:** MNCs employ varied strategies such as job boards, social media, and employee referrals to attract talent.
- ✓ **Talent Acquisition Priority:** There's a clear focus on talent acquisition as a strategic priority to drive growth and competitiveness.
- ✓ **Efficient Screening Processes:** MNCs implement efficient screening methods including resume parsing and pre-employment assessments.
- ✓ **Internal and External Sourcing:** They balance internal talent mobility with external hiring to maintain a skilled workforce.
- ✓ **Candidate Experience Focus:** Emphasis is placed on providing a positive candidate experience through clear communication and timely feedback.
- ✓ **Structured Selection Processes:** MNCs follow structured selection processes involving multiple interviews and assessments.
- ✓ **Continuous Improvement:** MNCs are committed to ongoing refinement of recruitment processes based on feedback and performance metrics.

SUGGESTION

- ✓ **Continuous Learning:** Invest in continuous learning and skill development. Stay updated with industry trends, technologies, and relevant skills that are in demand within the MNCs.
- ✓ **Networking:** Build a strong professional network through platforms like LinkedIn, industry events, and alumni associations.
- ✓ **Internships and Projects:** Gain practical experience through internships, projects, or part-time roles in relevant fields. This hands-on experience can enhance your resume and make you more attractive to MNC recruiters.
- ✓ **Research and Preparation:** Research the MNCs you're interested in joining. Understand their culture, values, and business objectives.
- ✓ **Soft Skills Development:** Develop essential soft skills such as communication, teamwork, problem-solving, and adaptability. MNCs value candidates who can collaborate effectively and thrive in diverse environments.
- ✓ **Global Mindset:** Cultivate a global mindset and cultural awareness. MNCs often seek candidates who can work across borders and collaborate with teams from different backgrounds.
- ✓ **Professionalism:** Maintain a professional online presence and personal brand. Ensure that your social media profiles are professional and reflect your skills and accomplishments.
- ✓ **Flexibility and Adaptability:** Demonstrate flexibility and adaptability to different work environments and challenges. MNCs value candidates who can quickly adapt to changing circumstances and contribute effectively to the organization.
- ✓ **Persistence and Patience:** Understand that the recruitment process for MNCs can be competitive and time-consuming. Stay persistent, keep applying to relevant opportunities, and be patient throughout the process.

RECOMMENDATION

✦ top multinational companies (MNCs) in India where freshers often find opportunities:

- ❖ **Tata Consultancy Services (TCS):** TCS is one of the largest IT services companies in the world and offers various entry-level positions for freshers.
- ❖ **Accenture:** Accenture operates in various domains such as consulting, technology, and outsourcing, providing numerous opportunities for fresh graduates.
- ❖ **Infosys:** Infosys is a global leader in consulting, technology, and outsourcing solutions, offering entry-level roles across its diverse service offerings.

- ❖ **Capgemini:** Capgemini is a global leader in consulting, technology services, and digital transformation, offering entry-level positions for freshers in IT and consulting.
- ❖ **Wipro:** Wipro is a leading global information technology, consulting, and business process services company, offering entry-level roles in IT and consulting.
- ✂ Here are some of the top websites where fresher can apply for jobs:
- ❖ **Naukri.com:** Naukri.com is one of the largest job portals in India, offering a vast array of job listings across different sectors, including IT, finance, engineering, sales, and more.
- ❖ **Monster India:** Monster India is another popular job portal that provides job listings for freshers as well as experienced professionals across various industries and job roles.
- ❖ **Freshersworld.com** specializes in entry-level job opportunities for fresh graduates, including internships and trainee positions.
- ❖ **LinkedIn:** LinkedIn is a professional networking platform where job seekers can create profiles, connect with professionals, and explore job opportunities posted by companies directly on the platform.
- ❖ **Times Jobs:** Times Jobs is a popular job portal owned by The Times Group, offering job listings for freshers and experienced professionals across various industries.

CONCLUSION

The report has attempted to point out recruitment and selection process in Multinational Company. We can get little information about recruitment and selection process in Indian Multinational Companies. We also take support by some secondary reports as well as internet and Multinational Company report publication. Selection process is good but it should also be modified according to the requirements and job profile so that main objective of selecting the candidate could be achieved. From the questionnaire found that mostly employees are young. Conclusion is that company should try to utilize workforce through training and development .as it's a good factor that work force was young.

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FACTORS DRIVING THE RISE IN GOLD PRICES IN INDIA

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ABSTRACT

The rise in gold prices in India during 2024 is propelled by various influential factors. Anticipated interest rate cuts in the U.S. and economic uncertainties globally contribute to market volatility. Gold's allure as a hedge against inflation and geopolitical tensions prompts substantial purchases by central banks and investors.

INTRODUCTION

Gold reserves represent physical gold bullion held by a country's central bank, typically constituting a portion of the nation's overall wealth and stored in the form of gold ingots.

For security reasons, numerous countries opt to store their gold reserves externally, often in the vaults of trusted institutions. For instance, the Bank of England safeguards not only the UK's gold reserves but also those of several other nations.

The current global financial system operates on fiat currency, which consists of paper-based (and increasingly digital) money not backed by physical assets. While discussing the pros and cons of fiat currency is beyond the scope here, one of its clear drawbacks is the lack of intrinsic value, relying solely on the trust in the issuing government.

In contrast, gold is a scarce and precious metal with a long history of being associated with wealth and value. "Shares, bonds, and other securities carry inherent risks, with prices susceptible to downturns. In the event of a total system collapse, gold reserves provide a foundation to rebuild.

CAUSE FOR THE RISE IN GOLD PRICES

The real interest rate, which factors in inflation, is calculated by subtracting the inflation rate from the nominal interest rate. During periods of inflation, the demand for gold typically rises. As a holder of gold, the RBI stands to gain a favourable return even amidst challenging economic conditions.

Gold is esteemed as a reliable hedge against geopolitical uncertainty. Escalating tensions between countries like Russia and China with the US, along with the Russia-Ukraine conflict, may diminish trust in the US dollar. In such instances, retaining dollars could lead to losses for the RBI. Conversely, gold, with its intrinsic value and limited supply, has the potential to maintain its worth better than other currencies.

Moreover, diversifying forex reserves with gold proves advantageous. Gold is regarded as a safer, more secure, and liquid asset that performs resiliently during crises, serving as a steadfast store of value. With its transparent international price and continuous tradability, gold offers stability and flexibility in times of uncertainty.

Central banks increased their gold reserves by a tonne or more in the month, continuing their recent trend as regular buyers:

Turkey's Central Bank led the pack with a purchase of 12 tonnes, bringing its total gold holdings to 552 tonnes, just 6% below its all-time high in February 2023.

The People's Bank of China added 10 tonnes to its reserves, marking the 15th consecutive month of increases. Its total holdings now stand at 2,245 tonnes, nearly 300 tonnes higher than in October 2022 when reporting resumed.

The Reserve Bank of India saw its gold reserves rise by nearly 9 tonnes, the first monthly increase since October 2023 and the largest since July 2022, reaching a total of 812 tonnes.

The National Bank of Kazakhstan acquired 6 tonnes of gold, its first monthly addition since January 2023.

The Central Bank of Jordan added 3 tonnes in January, marking the second consecutive month of increases and bringing its total holdings to 75 tonnes.

The Czech National Bank purchased nearly 2 tonnes, marking the eleventh straight month of buying, resulting in a surge in reserves from 12 tonnes to over 32 tonnes (+170%) over that period.

Notable selling was limited in January, with the Central Bank of Russia (CBR) being the only significant seller, reducing its reserves by 3 tonnes. This follows a pattern seen since 2021, likely related to the country's coin minting program.

The continued buying in January supports the expectation of another strong year of central bank gold demand in 2024. Emerging market central banks, in particular, have demonstrated a long-term strategy of accumulating gold since 2010.

The reasons behind central banks' ongoing gold acquisitions are highlighted in our Central Bank Gold Survey. These reasons include the value of gold in crisis response, its diversification benefits, and its status as a store of value. Given the ongoing global uncertainties, these reasons for owning gold remain as relevant as ever.

OBJECTIVE OF STUDY

The primary objective of this survey is to identify and analyse the key factors contributing to the rise in gold prices in India. By gathering insights from a diverse range of respondents, we aim to shed light on the underlying drivers and their implications for consumers, the economy, and investment strategies.

RESEARCH METHODOLOGY

It is based on the primary data well the Gold prices in India have witnessed a significant surge in recent times, prompting curiosity and concern among economists, investors, policymakers, and the general public alike. In order to gain a comprehensive understanding of the factors driving this trend and its impact, we have designed this survey to collect primary data from individuals like you.

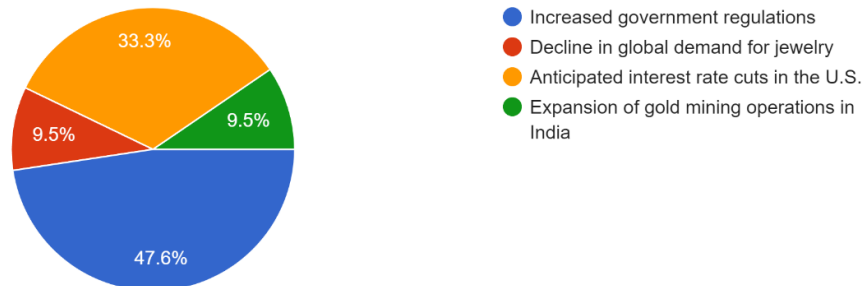
FINDINGS

The survey sought to explore the factors driving the recent surge in gold prices in India and its implications across various dimensions. Here's a summary of the key findings:

Figure-1

What factors are primarily driving the recent surge in gold prices in India?

21 responses



Factors Driving Gold Prices: Respondents identified anticipated interest rate cuts in the U.S. and the expansion of gold mining operations in India as primary drivers of the surge in gold prices. These factors reflect both political and economic factors.

Figure-2

How does the rise in gold prices affect the average consumer in India?

21 responses

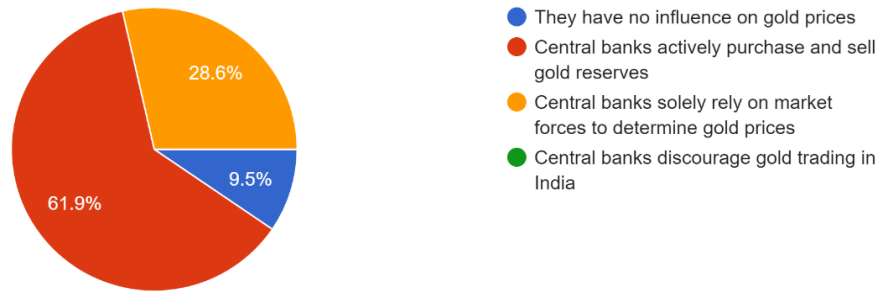


Impact on Average Consumers: The rise in gold prices has resulted in decreased affordability of gold jewellery for the average consumer in India. However, it also presents opportunities for profitable investment in gold, potentially leading to greater financial stability for households.

Figure-3

What role do central banks play in influencing gold prices in India?

21 responses

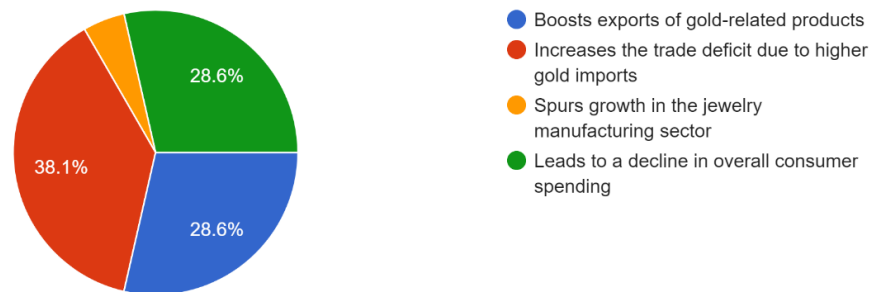


Role of Central Banks: Participants recognized that central banks play a significant role in influencing gold prices in India, with the majority indicating that central banks actively purchase and sell gold reserves to manage monetary policies and hedge against economic risks.

Figure- 4

How does the rise in gold prices impact the Indian economy?

21 responses

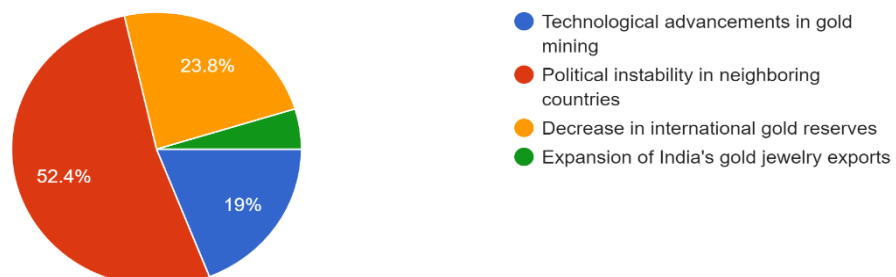


Impact on the Indian Economy: The survey findings suggest that the increase in trade deficit due to higher gold imports and rise in gold prices has varied impacts on the Indian economy, including boosting exports of gold-related products.

Figure-5

Which global events or trends have contributed to the recent increase in gold prices in India?

21 responses

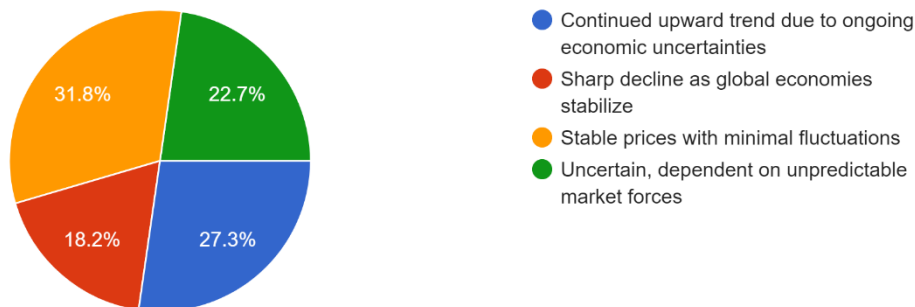


Global Events and Trends: Political instability in neighbouring countries and decrease in international gold reserves were identified as key global events contributing to the recent increase in gold prices in India. These external factors highlight the interconnectedness of global markets and their impact on local economies.

Figure-6

How do experts anticipate the future trajectory of gold prices in India?

22 responses

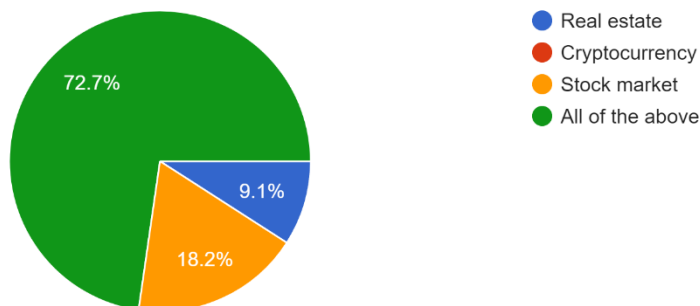


Future Trajectory of Gold Prices: Opinions divided across various scenarios ranging from continued upward trends to stable prices with minimal fluctuations and sharp decline as global economics stabilize.

Figure-7

What alternative investment options do individuals have amid the rise in gold prices?

22 responses



Alternative Investment Options: While gold remains a popular investment choice, respondents also recognized alternative options such as real estate, cryptocurrency, and the stock market amid the rise in gold prices. This underscores the importance of diversification in investment portfolios.

The survey findings provide valuable insights into the complex dynamics shaping the gold market in India and offer valuable perspectives for investors, policymakers, and industry stakeholders alike.

CONCLUSION

India's strategic approach to gold reserves underscores its significance as a stabilizing asset amid economic uncertainties. The Reserve Bank of India's inclusion of gold in foreign exchange reserves serves to diversify its currency holdings, enhancing financial resilience. The current surge in gold prices reflects global concerns about inflation and economic instability. Despite the traditional inverse relationship between gold prices and stock market performance, both are soaring concurrently due to investor demand for safer options amidst geopolitical tensions. The anticipation of an interest rate cut by the US Federal Reserve, along with China's bolstering of gold reserves, further propels gold prices upward. Overall, a confluence of factors, including geopolitical tensions and monetary policy decisions, drives the unprecedented rise in gold prices, reaffirming its role as a safe haven asset in times of uncertainty.

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CUSTOMER RELATIONSHIP MANAGEMENT, CUSTOMER SATISFACTION AND ITS IMPACT ON CUSTOMER LOYALTY

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ABSTRACT

This study aims to determine the impact of customer relationship management (CRM) on customer satisfaction and customer loyalty among Islamic banks in Aceh province. The aim of this research is to examine the effect of the customer loyalty program on customer satisfaction and its impact on customer loyalty. This program is developed by the company in order to increase customer satisfaction. Optimal customer satisfaction will be able to create customer

LOYALTY. The population of the research consists of all customers of Islamic banks. This study used simple random sampling with a sample size of 250 participants. The analytical technique used is structural equation modeling (SEM). The results show that customer relationship management has a significant impact on customer satisfaction and trust. In addition, satisfaction also affects customer loyalty. Customer satisfaction plays a mediating role in the effects of customer relationship management. The importance of this study is that Islamic bank management should improve customer relationship management to increase the trust of its customers.

INTRODUCTION

Background The conclusion of this study is that customers are dissatisfied with Islamic banks; This may also be due to other factors such as apathy. Consider that banks build relationships with customers as Customer Relationship Management (CRM). A business method for managing relationships with customers. Customer relationship management (CRM) focuses on the benefits the customer will receive, not the product or service the company sells. Through customer relationship management (CRM) application, companies want to communicate and build relationships with customers. These conditions also require companies to not only market and sell products and services at a good or competitive price, but also meet customers' needs and wants, as explained by Indah and Dewi (Indah and Dewi, 2013), which can lead to satisfaction. . and customer loyalty. Due to the few studies on customer loyalty in Islamic bank and what is known about Islamic banking customer loyalty and satisfaction, it is not clear whether Islamic banking customer satisfaction leads to loyalty. It is still confusing and according to the results of some studies, there are doubts about the positive impact of customer relationship management (CRM) on customer satisfaction pressure and trust. Based on the above, the author wants to conduct research on "Customer Management, Customer Satisfaction and Its Effect on Customer Satisfaction in Islamic Banks". These are as follows:

1. To determine the impact of Customer Relationship Management (CRM) on Islamic banking satisfaction and customer loyalty.
2. To determine the direct impact of customer relationship management (CRM) on customer loyalty through customer satisfaction in Islamic banks.

Data Analysis**2.1 Customer Loyalty According to Kotler and Armstrong**

Customer loyalty can generally be defined as a person's commitment to goods, products and services. Consumer loyalty is the feeling and maintenance of customer satisfaction by taking advantage of the opportunities and services offered by the company and becoming a buyer of the company.

2.2 Customer Satisfaction According to Kotler

Satisfaction is the satisfaction or disappointment a person feels after comparing the product performance (efficiency) with the perception/opinion of the need. Additionally, Tjiptono (Tjiptono, 2011) defines customer satisfaction as the emotional response to the evaluation of product or service use. Later, Oliver (2011) stated that product features play an important role in creating customer satisfaction. According to some of the above points, customer satisfaction can be said as a post-sale analysis resulting from a particular purchase choice where the perception of the quality of the possible product choice meets or exceeds expectations before the purchase decision. An integrated system includes sales, marketing, and service designed to increase revenue through customer satisfaction (Kalakota and Robinson, 2010).

2.3 Customer relationship management

is the concept of building relationships between companies, in this case with customers (Satedjo, 2011, p. 65). Therefore, customer relationship management is a method of customer service that focuses on establishing and m

maintaining long-customer

term relationships (Ardiyhanto, 2011). Based on the above points, organizations can focus on developing an important asset in the long term: valuable customer relationships. CRM leaders create a vision of how they will transform their companies to create important features so that organizations can negotiate and intend to purchase products (Gordon, 2002: 2). Based on the above points, it can be concluded that customer relationship management can affect the level of customer satisfaction. Additionally, customer satisfaction also affects customer loyalty. For more information, how customer relationship management changes affect customer satisfaction and their impact on customer loyalty will be explained in the next section.

2.4 The impact of relationship management on customer satisfaction Customer relationship management (CRM) is a method of attracting, managing and developing customers, satisfying and strengthening relationships with customers (Tung, 1997). Additionally, customer relationship management (CRM), purchasing behavior regarding customers, cultural behaviors, etc. Provides information and data. (Agrawal, 2004). These data and information are used to improve communication understanding with customers in order to create value and ensure customer satisfaction (Agrawal, 2004). As can be seen from the above explanation, customer relationship management affects customer satisfaction. In other words, the better the customer relationship management, the higher the customer satisfaction. Competitive advantage is achieved by integrating various functions of the company (Payne and Frow, 2005; Indah and Dewi, 2013; Chang, 2007; Nguyen, Sherif and Newby, 2007). The results of research conducted by Ardiyhanto (Ardiyhanto, 2011) and Ariyant (Ariyant, 2006) show that customer relationship management is related to customer loyalty. This means leveraging CRM, which has a positive impact on customer loyalty in the business unit. Therefore, CRM applications allow companies to use information on every aspect of their customers, whether online, in the call center, or through marketing and personnel services in the field. Based on the above explanation, it can be concluded that the better the company's customer relationship management is, the customers will remain loyal to the product/service produced by the company.

2.5 The Effect of Satisfaction on Customer Loyalty In Lupiyoadi, Parasuraman (Lupiyoadi, 2011, p. 182) states that satisfaction is the level of satisfaction felt after measuring the information about the product. Lupiyoadi added that satisfied customers in the banking industry have the ability to be loyal, so people who will use all banking products will be loyal customers. The higher the customer trust, the more likely the bank's customers will buy, and of course, customers will like the company's products. Confirmation of service from satisfied customers will make customers believe that this brand is the best and will be able to recommend the product to the public. The higher the customer satisfaction, the higher the customer loyalty.

2.6 Direct impact of customer relationship management on customer loyalty through customer satisfaction In general, customer satisfaction and dissatisfaction mutually differ between expectation and agreement. Therefore, understanding customer satisfaction means that customers receive products or services that are at least equal to their expectations. To create customer satisfaction, service companies must be able to deliver value to gain more customers and maintain customer loyalty. Then expect customers to gain trust from good service, proper customer relationship management, when the customer is very satisfied. In other words, customer relationship management will only have an impact on customer loyalty when customers are satisfied. Thus, customer relationship service directly affect Layalitas through customer satisfaction.

2.7 Theoretical model of the research Based on the above background issues, analysis of data and theories, this research can form a theoretical model or framework as shown in the figure below:

Customer Service Management Their services are effective and efficient in terms of customer satisfaction in Islamic banks. H2: Customer relationship management practices in Islamic banks have a positive and significant effect on customer loyalty. H3: Customer satisfaction has a positive effect on customer loyalty in Islamic banks. in direct effect

3 OBJECTIVES

3.1 Location, Objectives and Limitations of the Study

This study was conducted at the Islamic Bank in Aceh Province. The variables in this study include customer trust (C), customer satisfaction (C) and customer management. ICMR 2018 -

International Multidisciplinary Research Conference

3.2 Population and Sample The entire study population consists of customers of Islamic banks in Aceh Province. Simple measurements were used in this study. A sample of 250 participants was collected for this survey.

3.3 Question Design The research question is divided into three parts. The first part is the customer relationship management problem. The second part consists of questions regarding customer satisfaction. The third is the issue of customer loyalty.

4 FINDING AND DISCUSSION

4.1 Validity and Reliability Test Before conducting the main study, it is necessary to test the validity and reliability of the questionnaire to carry out the "Pilot Project" involving 50 respondents were selected randomly.

4.1.1 Validity Based on the results of testing the validity of the research instrument in terms of item-total statistics of the 50 respondents indicated that all of the item's statement for independent variables consist of customer relationship management, where dependent variable consists of satisfaction and customer loyalty at the Islamic Bank have a correlation value of r greater than 0.2012. Thus, the statement means that all item is valid for all variables.

4.1.2 Reliability the reliability results of the research instrument for all statistics of the items of 50 participants are shown in the table below: Table 1: Publication of reliability assessment. Variables / Sub-Variables Cronbach Alpha Trust

4.2 First step in approaching the measurement model All constructs (customer relationship management, satisfaction and trust of the user object) will be included in the standard testing phase. This stage is based on the first step taken by Anderson and Gerbing (Anderson and Gerbing, 1988). The final results of the comparisons can be seen below.

4.3 Structural Equation Modeling (SEM) (Step Two) According to Garver and Mentzer (Garver and Mentzer, 1999), the method of achieving effectiveness can be achieved by combining a design adjusted for other designs, as shown in Figure 3: Model equation evaluation model. Table 3: Fit indices of the structural equation model. Fit indices χ^2/df 94.833 Customer satisfaction coefficient. It can also be explained from these results that there is a 41.5% error variance in predicting customer loyalty. So it can also be explained by other factors.

4.4 Analysis of Direct Hypothesis . The structural balance of the building in the table above may explain the purpose of this study. The results of the structural equation model also simultaneously explain the direct effects of customer relationship management, customer satisfaction and customer loyalty, where both aspects of thought have a great impact. Therefore, these results can prove hypotheses 1, 2, and 3 of this study.

4.5 Analysis of Insufficient Effect Tests the hypotheses were tested by integrating the role of different mediating variables suggested by Kelloway (1995) (satisfaction), which would explain the indirect effect as shown in the table below.

Hypothesis not rejected Figure 4: Significance of the relationship between constructs in the model.

5 CONCLUSION AND FUTURE RESEARCH

The results of this study prove that the customer relationship management structure in this research model affects customer satisfaction and customer loyalty in Islamic banks. This finding is consistent with Ardiyhanto (2011) and Ariyati (2006) who found a positive and significant relationship between CRM and loyalty. It has also been proven that this issue affects customer satisfaction as well as customer loyalty. Customer satisfaction plays a role as a different negotiation part of customer relationship management and customer loyalty

It can be explained that in order to create more customer trust in Islamic banks in Aceh, managers should be able to strengthen customer relationships. management. Planning for future research In addition, recommendations can explain that the research has many limitations, especially for planning future research. Therefore, the research should be repeated by creating other things to create better models.

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ABSTRACT

This report will present all the Backend information of the internet, In this era of network and technology where the information is on the internet and every user has access to it there and some various technologies which makes the use of internet easier. In these cookies play an important role for providing user-oriented information. But some of the organizations are dealing with these algorithms or cookies diversely, as this tracks a user's browsing behaviour. There are first-person cookies, where the site in question tracks user's behaviour to offer them relevant products; and third-party cookies, where this is done by another company to allow others to advertise to the user instead – the classic example is Google Ads. Cookies gather so much information that it is usually more than enough to identify the person behind the device. Besides visits to web pages, they can also read a person's search queries, goods or services purchased, IP address and exact location.

Keywords: Algorithm, Cookies, Vulnerable, Data Theft, Data Integrity, Confidentiality, Awareness, Data Protection.

INTRODUCTION

Cookies are small blocks of data created by a web server while a user is browsing a website and placed on the user's computer on other device by the users web browser. Cookies are placed on the device used to access a website, and more than on e cookies may be placed on a users device during a server. An Algorithm is a set of commands or instructions for solving any problem or accomplishing a task and cookies are a file with information or data that is sent to the control server each time a particular person uses a network or data. These methods are used to give a seamless and fast experience of interest and even used for problem solving. But from this, it is also possible to infer a person's name, nationality, language, religion, sexual orientation and other intimate details, most of which are special categories of personal data that cannot be processed without the explicit consent of the individual under EU privacy Directives and the EU and UK's General Data Protection Regulation (GDPR).

Algorithms serve as systematic processes or rule sets used to address specific problems or tasks, forming the cornerstone of computer science, and extending across diverse disciplines such as mathematics, engineering, data analysis, and artificial intelligence. These procedural constructs vary in complexity depending on the nature of the problem at hand, encompassing basic arithmetic operations like addition or multiplication to more intricate endeavors like sorting data sets, conducting database searches, or deriving meaningful insights from extensive datasets. In the realm of computer science, algorithms are meticulously crafted, evaluated, and implemented to deliver optimal solutions, with their effectiveness often gauged by factors such as time and space complexity measuring their speed and memory requirements, respectively. Proficiency in understanding and leveraging algorithms is paramount for professionals in fields like programming, data science, and computer engineering, as they underpin the development of software and the resolution of intricate challenges with efficiency and precision.

OBJECTIVE OF THE STUDY

- To make the data invulnerable
- To study how the user is getting scammed through cookies and what adverse does algorithms cause
- To spread awareness to how we can stop providing data to unwanted organizations.
- To let people know how their data is been used.

VARIOUS FORMS OF ALGORITHMS:

- Search engine algorithm: This algorithm takes search strings of keywords and operators as input, searches its associated database for relevant webpages and returns results.
- Encryption algorithm: This computing algorithm transforms data according to specified actions to protect it. A symmetric key algorithm, such as the Data Encryption Standard, for example, uses the same key to encrypt and decrypt data. If the algorithm is sufficiently sophisticated, no one lacking the key can decrypt the data.

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- **Greedy algorithm:** This algorithm solves optimization problems by finding the locally optimal solution, hoping it is the optimal solution at the global level. However, it does not guarantee the most optimal solution.
 - **Recursive algorithm.** This algorithm calls itself repeatedly until it solves a problem. Recursive algorithms call themselves with a smaller value every time a recursive function is invoked.
 - **Backtracking algorithm.** This algorithm finds a solution to a given problem in incremental approaches and solves it one piece at a time.
 - **Divide-and-conquer algorithm.** This common algorithm is divided into two parts. One part divides a problem into smaller subproblems. The second part solves these problems and then combines them to produce a solution.
 - **Dynamic programming algorithm.** This algorithm solves problems by dividing them into subproblems. The results are then stored to be applied to future corresponding problems.
 - **Brute-force algorithm.** This algorithm iterates all possible solutions to a problem blindly, searching for one or more solutions to a function.
 - **Sorting algorithm.** Sorting algorithms are used to rearrange data structures based on a comparison operator, which is used to decide a new order for data.
 - **Hashing algorithm.** This algorithm takes data and converts it into a uniform message with a hashing.
 - **Randomized algorithm.** This algorithm reduces running times and time-based complexities. It uses random elements as part of its logic.

Drawbacks of Algorithm:

- **Enclosed Perspectives:** Algorithms have the tendency to reinforce users' existing viewpoints, forming filter bubbles and echo chambers. This limits exposure to diverse opinions and perspectives.
- **Bias Propagation:** Algorithms, often biased themselves, can perpetuate societal inequalities, resulting in discrimination and unfair treatment towards certain individuals or groups.
- **Opaque Operations:** The complexity of algorithms makes it challenging for users to comprehend how content is prioritized and recommended, or why specific ads or posts are displayed to them, leading to a lack of transparency.
- **Privacy Dilemmas:** By relying on user data and behavior, algorithms enable personalized content delivery and targeted advertisements, raising concerns about privacy infringement and causing discomfort among users.

The drawbacks are that its tracking capabilities and its potential to foster bias and insularity. It seems to tailor information specifically to our interests, which can inadvertently limit our exposure to diverse perspectives.

VARIOUS FORMS OF COOKIES

- **Session cookies**

Session cookies, also known as 'temporary cookies', help websites recognise users and the information provided when they navigate through a website. Session cookies only retain information about a user's activities for as long as they are on the website. Once the web browser is closed, the cookies are deleted. These are commonly used on shopping websites or e-commerce websites.

- **Permanent cookies**

Permanent cookies, also known as 'persistent cookies', remain in operation even after the web browser has closed. For example, they can remember login details and passwords so web users don't need to re-enter them every time they use a site. The law states that permanent cookies must be deleted after 12 months.

- **First-party cookies**

First-party cookies are installed directly by the website (ie domain) the user is visiting (ie the URL shown in the browser's address bar). These cookies enable website owners to collect analytics data, remember language settings, and perform other useful functions that provide a good user experience.

- **Third-party cookies**

Third-party cookies are installed by third parties with the aim of collecting certain information from web users to carry out research into, for example, behaviour, demographics or spending habits. They are commonly used by advertisers who want to ensure that products and services are marketed towards the right target audience.

- **Flash cookies**

Flash cookies, also known as 'super cookies', are independent of the web browser. They are designed to be permanently stored on a user's computer. These types of cookies remain on a user's device even after all cookies have been deleted from their web browser.

- **Zombie cookies**

Zombie cookies are a type of flash cookie that is automatically re-created after a user has deleted them. This means they are difficult to detect or manage. They are often used in online games to prevent users from cheating but have also been used to install malicious software onto a user's device.

Advantages of Cookies:

HTTP cookies are essential to the modern Internet but a vulnerability to your privacy. As a necessary part of web browsing, HTTP cookies help web developers give you more personal, convenient website visits. Cookies let websites remember you, your website logins, shopping carts and more.

Disadvantages of Cookies:

Cookie poisoning is defined as the act of manipulating the contents in the cookie before they are sent to the server.

The main drawback is the privacy for most users, The cookie enabled web browsers keep track of all the websites you have visited, The third parties can access the information stored by these cookies, These third parties can be advertisers, The other users or the government in some cases. Cookies may generate an inconsistent state between the state of the client and that stored in the cookie.

Consequences faced by users

- Website uses so many tricks to make the user accept cookies. If the users don't accept the cookies it will continuously show the banner, which may hide the whole content.
- The algorithms which are supposed to give a solution to a problem turns out to be the problem as they are increasing the fair prices by knowing the want of the user. As such algorithms are just to give the user a good experience of browsing. These takes such information regarding the user which reveals behavior and personality of the user. Such organizations make profit through it

LITERATURE REVIEW

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RESEARCH METHODOLOGY

The research paper is an attempt of exploratory research, based on the secondary data sources from journal, magazines, articles and media reports.

SCOPE OF THE STUDY

- To stop organizations from data breaching.
- To enlighten the process of how data is being used.

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- Creating internet surfing a safe place to get information rather giving information
 - Educating people about internet and their actual uses.
 - Making them aware of such technical aspects of the internet.

SOLUTION

The organizations asking for the cookies while a user is on a website or any session can be neglected by using incognito mode. In this no website can store your cookies or web cache. Cache and cookies will get deleted as soon as the session ends. Whenever a user enters this mode it treats them as a new fresh user without knowing any history of any previous session.

CONCLUSION

As a consumer of the internet every single user has the right to see all the information available on the internet rather than relying of the algorithms and there biased information's. There are such organizations which are misusing the information given by the users. This gives an advantage to enterprises using such pricing algorithms for exchanging market information and fixing prices thereby colluding tacitly. Cookies are also violating the norms of privacy as everyone has a right to privacy which shouldn't be violated. Cookies which are sold to the organization has a great impact on the user as they are being looted. User data is being breached and used against them.

EMPOWERING WOMEN THROUGH ENTREPRENEURSHIP: A STUDY OF MAHILA ARTHIK VIKAS MAHAMANDAL (MAVIM) SCHEMES

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Economic empowerment of women is crucial for achieving sustainable development and gender equality. In Maharashtra, as in many parts of India, women face numerous socio-economic challenges that hinder their participation in entrepreneurship and economic activities. Recognizing this, the Maharashtra Government established MAVIM in 1975 and from 2003 it acts as the nodal agency to promote women economic empowerment through various schemes and programs. This paper provides an overview of MAVIM's initiatives and their significance in empowering women in Maharashtra through entrepreneurship and economic development.

The study utilizes secondary data sourced from government reports, academic literature, and MAVIM publications to analyse the various initiatives undertaken by MAVIM and their outcomes. Through a comprehensive review and synthesis of existing information, the paper aims to provide insights into the challenges faced by women entrepreneurs in Mumbai, the role of MAVIM in addressing these challenges, and the overall impact of MAVIM schemes on the economic empowerment of women in the city.

Keywords: Women empowerment, Economic empowerment, Women entrepreneurship, Mahila Arthik Vikas Mahamandal (MAVIM).

INTRODUCTION

The Government of India initiatives like “Atmanirbhar Bharat”, “Make in India”, “Start-up India” – are all envisaged towards making India an entrepreneurial hub. Entrepreneurship development is a process that creates a facilitating environment where entrepreneurs can be trained and motivated to identify gap, develop ideas and exploit it into new opportunities. It is a process aimed at fostering entrepreneurial aptitude and foresight within individuals.

All countries consider entrepreneurship development crucial for sustainable development as it creates employment and innovation in products and processes. (OECD Council Report, 2012).

According to A. P. J. Abdul Kalam, the empowerment of women is fundamental for the progress of a nation. When women are empowered, it fosters societal stability and prosperity. Their empowerment is indispensable as it cultivates strong family units, vibrant communities, and ultimately, a prosperous and thriving nation.

CONCEPTUAL BACKGROUND**Women Empowerment**

“Women empowerment is the provision of women with the means, skills, and opportunities to be independent, make their own choices and lead a life free of all sorts of violence and discrimination.” - Nada Hamza, sexual and reproductive rights specialist, United Nations Population Fund

Women’s economic empowerment is central to realizing women’s rights and gender equality. Empowering women in the economy and narrowing gender disparities in the workforce are essential components to achieving the 2030 Agenda for Sustainable Development.

Encouraging women’s entrepreneurship leads to improvement in women’s financial status and boosts the confidence among women to take independent financial decisions. Women’s economic empowerment in the true sense will be possible only with the financial inclusion of women into the mainstream. Women entrepreneurs are considered important economic agents for country’s economic expansion.

Economic Empowerment

Economic empowerment refers to the ability of individuals or communities to achieve greater control over their financial resources, income, and economic decision-making processes. It involves providing opportunities for economic participation, access to resources, and the ability to generate sustainable livelihoods, ultimately leading to increased autonomy and improved well-being.

Women Entrepreneur

According to the National level standing committee on women entrepreneurship, Government of India, 1991, "An enterprise owned and controlled by women having a minimum financial interest of 51 percent of the capital and ensuring at least 51 percent of the employment opportunities created within the enterprise are provided to women".

Women Entrepreneurship

Women entrepreneurs are individual woman or a group of women who undertake the initiation, organisation and management of a business venture.

Frederick Harbison – "Any woman or group of women which innovates, initiates or adopts an economic activity may be called women entrepreneurship".

Mahila Arthik Vikas Mahamandal (MAVIM)

Mahila Arthik Vikas Mahamandal (MAVIM) is a State Women's Development Corporation under the Government of Maharashtra, established in 1975. It operates with the mission of empowering women economically and socially across the State. MAVIM focuses on implementing various programs and schemes to promote women's entrepreneurship, particularly through the formation and nurturing of self-help groups (SHGs). These SHGs serve as platforms for women to come together, pool their resources, and engage in collective economic activities. MAVIM provides training, capacity building, and financial support to these groups, enabling them to undertake income-generating activities such as small-scale enterprises, agriculture, and crafts. Additionally, MAVIM facilitates access to credit, markets, and government schemes for women entrepreneurs. Through its initiatives, MAVIM aims to uplift women from marginalized communities, enhance their financial independence, and contribute to their overall socio-economic empowerment.

Mahila Arthik Vikas Mahamandal (MAVIM) implements several schemes and programs aimed at promoting women's entrepreneurship and socio-economic development in Maharashtra. Some of these schemes include:

- **Swayamsiddha:** SHGs undertake income-generating activities and promote collective empowerment.
- **Tejaswini:** The Tejaswini scheme aims to enhance the socio-economic status of rural women by providing them with skill development training and access to livelihood opportunities. It focuses on sectors such as agriculture, livestock rearing, handicrafts, and small-scale industries.
- **Swadhar:** MAVIM's Swadhar scheme provides support services to women in difficult circumstances, including victims of domestic violence, trafficking, and destitute women. It offers shelter, counseling, legal aid, and rehabilitation support to help women rebuild their lives.
- **Sahyogini:** This scheme promotes women's participation in community development activities by appointing them as facilitators or motivators. Sahyoginis work at the grassroots level to mobilize women, promote health and hygiene practices, and facilitate access to government schemes and services.
- **Sakhi Mandals:** MAVIM supports the formation and functioning of Sakhi Mandals, which are women's collectives involved in various income-generating activities. These groups receive training, financial assistance, and market linkages to enhance their economic independence.

MAVIM Projects

- NAV TEJASWINI – Maharashtra Rural Women's Enterprise Development Project
- Minority Women Empowerment Program (MWEP)
- National Urban Livelihood Mission (NULM)
- Maharashtra State Rural Livelihood Mission (MSRLM)
- Water Sanitation and Health (WASH)
- Sparking Disability Inclusive Rural Transformation Project (SPARK)
- SMART Project

REVIEW OF LITERATURE

1. Lokhande, M. (2010) in his research paper attempted to bring out the impact of Women Self-Help Groups (WSHGs) focusing on the study of Mahila Arthik Vikas Mahamandal. The author opined that microfinance through the WSHGs holds immense potential in India for financially supporting the underprivileged women.

The author envisaged that institutions like SHPIs, NBFCs, banks, and voluntary groups aim to provide easy credit access, particularly to women, for initiating local economic ventures. Despite the success of WSHGs in fostering women entrepreneurship, there is a need for a supportive environment and overcoming barriers like property ownership issues. Initiatives such as the Gramin Bank in Bangladesh highlight the importance of microcredit in addressing unemployment and poverty among women.

2. Bansod, M. (2021) in her research paper focused on the Self-Help Initiative for Livelihood Creation (SILC) and Village Savings and Loan (VSL) initiatives by the Mahila Arthik Vikas Mahamandal (MAVIM), empowering women economically. SILC focuses on fostering self-reliance through livelihood activities, while VSL promotes financial inclusion through community-based savings and credit. MAVIM aims to ensure government scheme implementation via "Net Planning," addressing challenges like regional backwardness and SHG members' socio-economic profiles. The study revealed that MAVIM has tailored integration plans to empower marginalized women, acting as a bridge between SHGs, financial institutions, and government bodies. These efforts collectively uplift women's socio-economic status and foster sustainable rural development.
3. Bharti, N. (2020) in her research article studied community managed agricultural services. The author opined that challenges such as low profitability, high input costs, and seasonal produce, hinder agricultural sustainability and suggested collective actions to mitigate these challenges. The researcher studied the case of Mahila Arthik Vikas Mahamandal (MAVIM) which initiated community-managed agro-service centres to provide quality inputs at reasonable prices. A qualitative study in Thane and Yavatmal districts revealed that these centres have effectively reduced operational costs and increased farmers' bargaining power in the market. With minor adjustments, MAVIM can further enhance the effectiveness of these interventions to better achieve their objectives.
4. Mudhe, S. (2022) in his doctoral research reviewed Mahila Arthik Vikas Mahamandal (MAVIM) and its schemes in achieving its objectives. The research revealed that MAVIM has been successful in empowering women through entrepreneurship. The researcher recommended MAVIM to prioritize several areas to enhance its initiatives. The suggestions included revitalizing district-level monitoring and management information for better oversight, regular training for Sahayoginis for keeping them updated and effective in supporting women, educating women on local governance enabling their participation, confidence-building tours, tailored training programs, integrating sustainable agricultural methods and collaborating with banks and government agencies, etc. The researcher opined that the recommendations will enhance MAVIM's impact on women's empowerment and socio-economic development.
5. Poonacha, V., (2008) in her working papers delves on the case study highlighting the struggles of poverty in Pelhar, aggravated by unregulated cattle sheds leading to environmental degradation. The study covers three aspects – (a) The SGSY programme: Suvarna Jayanti Gram Swarozgar; (b) the challenges faced by MAVIM in their struggle to help women to rise above poverty level; and (c) the process of empowerment. The SGSY program aimed to alleviate poverty, but faced challenges including exclusion of non-BPL women and manipulation of subsidies. MAVIM empowered women to demand accountability from officials, but poverty persists due to corruption and environmental issues. Solutions include stricter pollution controls, holding dairy farm owners accountable for environmental impact, and political action for legislative change.
6. Patel, V. (2014) in her research article attempts to study the importance of efforts of collective agencies in gender rights. The researcher underscores the importance of collective efforts in advancing women's rights despite challenges from political institutions, social norms, and family structures. The study revealed that in Maharashtra, the government's proactive stance towards women's economic empowerment supported by MAVIM, reflects a commitment to address gender disparities through policies like the Women's Policy. By integrating gender planning and budgeting, the state aims to enhance Gender Empowerment Measures (GEM) across key areas such as employment, education, health, and political participation during the XII Five Year Plan. Collaboration among government, private sector, and NGO is emphasised for effective gender empowerment, recognising the benefits it brings to various stakeholders. The researcher envisioned that sustaining progress requires ensuring women's inclusion in decision-making processes and improving data collection for targeted resource allocation and gender-specific program implementation at local levels.
7. FE Education. (2024) in the article in Financial Times mentioned about the collaboration between the Global Alliance for Mass Entrepreneurship (GAME) and Mahila Arthik Vikas Mahamandal (MAVIM) in Maharashtra under the Maharashtra State Entrepreneurship Mission (MSEM) aiming to boost women's entrepreneurship in the region. The article discusses how the collaboration leverages MAVIM's extensive

network of self-help groups and community-managed resource centres, along with GAME's expertise in entrepreneurship development. The partnership seeks to empower women entrepreneurs through initiatives focusing on green entrepreneurship, access to credit, and digital market platforms. This collaboration, supported by other partners like SIDBI, Amazon Saheli, and the SELCO Foundation, intends to address key challenges such as financial inclusion, regulatory compliance, and renewable energy adoption for MSMEs. By connecting efforts in pilot districts including Thane, Nagpur, Ahmednagar, Amravati, Chandrapur, and Jalgaon, the partnership aims to serve as a model for fostering economic growth and empowerment in Maharashtra, ultimately contributing to the broader goals of women's participation in the state and national economies.

8. Tembhekar, C. (2023) in his article in Times of India revealed that the Maharashtra Postal Circle's collaboration with the Mahila Arthik Vikas Mahamandal marks a significant development in empowering women entrepreneurs by providing India Post's affordable logistics services to 1.73 lakh women self-help groups in the State. Through this partnership, initiated during National Postal Week celebrations, products like delicacies, artifacts, and handicrafts from these groups are to be rapidly distributed worldwide, fostering growth for small-scale and micro-businesses. Leveraging India Post's vast network of over 1.57 lakh post offices, including export services, ensures broader market access for these enterprises. Additionally, an agreement with a private logistics company expands India Post's parcel services to small online retailers and e-commerce vendors, reflecting the increasing role and effectiveness of postal services in modern commerce, as indicated by recent statistics showing a rise in post deliveries.
9. Mahajan, S. & Kamble, C. (2011) in their research paper attempted to explore the role of Mahila Arthik Vikas Mahamandal (MAVIM) in promoting entrepreneurship among women in Kolhapur District. The study aimed to achieve three main objectives: reviewing MAVIM's various programs for promoting women entrepreneurship, evaluating MAVIM's performance in terms of these schemes, and studying MAVIM's working structure in the district of Kolhapur. The researchers highlighted the importance of entrepreneurship development for improving living standards and securing financial support for families, considering the case of MAVIM serving as a government-supported entity for women's entrepreneurship. The paper revealed that despite facing challenges like caste discrimination, socio-economic structures, and political interference, MAVIM has implemented numerous self-help groups (SHGs) and schemes, demonstrating its vital role in enhancing women's entrepreneurship and societal status with government support.

OBJECTIVES OF THE STUDY

The objectives of the research paper is to –

1. Comprehend the role of MAVIM in empowering women through entrepreneurship.
2. Understand the collaborations of MAVIM with other institutions to strengthen women entrepreneurship.

METHODOLOGY

The study is based on data collected from secondary sources like reports of MAVIM, books, research papers, articles, different websites, etc.

FINDINGS

Since October 2015, MAVIM has been partnering with the National Urban Livelihoods Mission (NULM) to empower urban communities. Despite encountering challenges in adapting the rural models to urban settings, particularly concerning the unique financial needs and repayment behaviour of urban population, MAVIM has endured. Through continuous innovation and adaptation, MAVIM has refined the urban intervention model to perfection. As per MAVIM records, collaborating with approximately 62,528 Self-Help Groups (SHGs), comprising 6.62 lakh women, across 34 districts and 259 Urban Local Bodies (ULBs), the extensive network of MAVIM enables comprehensive outreach and impact in urban areas. Notably, the SHGs in urban areas boast an impressive 99% repayment rate, showcasing the effectiveness of the approach. Major private banks, including ICIC and Saraswat Bank, have recognised the success and appointed MAVIM as their service delivery agent for last-mile credit delivery. MAVIM is dedicated to promoting community-driven change, nurturing self-reliance, financial independence, and sustainable livelihoods to foster lasting effects in urban communities.

CONCLUSION

While MAVIM has made significant strides in empowering urban communities through its initiatives, there remains a considerable journey ahead. Despite its achievements, challenges persist, and further efforts are needed to address the multifaceted needs of urban populations effectively. By continuing to innovate,

collaborate, and adapt, MAVIM can bridge the gap and pave the way for even greater impact in building stronger, more resilient urban communities.

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STRATEGIES FOR ADVANCING WOMEN'S LEADERSHIP IN MUMBAI'S BUSINESS LANDSCAPE: A LITERATURE REVIEW

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This paper examines strategies aimed at advancing women's leadership in Mumbai's dynamic business landscape through a comparative analysis. Despite progress, women continue to face significant barriers in accessing leadership positions in the corporate world. Mumbai, as a major economic hub in India, presents a unique context for exploring effective strategies to promote gender diversity and inclusion in leadership roles. Drawing on existing literature and empirical evidence, this study analyzes various strategies implemented globally and within Mumbai to enhance women's leadership representation. Key areas of focus include leadership development initiatives, organizational policies, and cultural shifts within workplaces. By comparing the effectiveness of these strategies across different contexts, this paper aims to provide insights and recommendations for businesses, policymakers, and other stakeholders in Mumbai seeking to foster a more inclusive and equitable leadership environment. Ultimately, the goal is to contribute to the advancement of women's leadership in Mumbai's business landscape and beyond, promoting diversity, innovation, and sustainable economic growth. By identifying successful strategies and learning from both achievements and setbacks, we aspire to contribute to the ongoing dialogue surrounding gender diversity and provide actionable recommendations to create a more equitable and inclusive business environment in Mumbai and beyond. Through a comparative lens, the paper evaluates the effectiveness, challenges, and potential for adaptation of these strategies within Mumbai's specific socio-cultural and economic context.

Keywords: Leadership, Women, Representation, Gender equality, Challenges

INTRODUCTION

India's economic environment has undergone a dramatic change in the last several years, with a growing number of women assuming senior positions in corporations and entrepreneurship. The increasing number of women in Indian business is not just a trend; rather, it is a revolutionary development that is altering sectors, spurring innovation, and accelerating economic expansion.

It's clear to see today how women are becoming more and more influential in the economic sector. More and more women are pursuing entrepreneurship as a means of achieving their goals of financial independence, autonomy, and pursuing their true passions as society standards change and opportunities for women rise. There are currently 13.5 to 15.7 million women (about twice the population of New Jersey)-owned enterprises in India, directly employing 22 to 27 million people (about the population of Texas). By 2030, this figure might increase to 31.5 million with the right policies, adding 50–60 million more jobs directly to the economy.

In Mumbai's bustling business landscape, the potential of women's leadership remains underexplored and often overshadowed by entrenched cultural biases, institutional hurdles, and societal norms. Despite strides towards gender equality in various sectors, women continue to encounter barriers that impede their advancement to leadership positions. This paper seeks to delve into the strategies aimed at fostering women's leadership in Mumbai's business ecosystem, leveraging insights from successful initiatives implemented elsewhere.

The importance of addressing gender disparities in leadership cannot be overstated. Not only is it a matter of social justice and equity, but it also holds significant implications for economic growth, innovation, and organizational effectiveness. Yet, women in Mumbai face multifaceted challenges, ranging from workplace discrimination and lack of access to opportunities to cultural expectations that prioritize traditional gender roles. These barriers not only stifle individual potential but also limit the overall progress and diversity of Mumbai's business community.

Against this backdrop, it becomes imperative to examine and evaluate strategies aimed at advancing women's leadership. By conducting a comparative analysis with successful initiatives from other regions, we can gain valuable insights into what works, what doesn't, and how best to tailor interventions to Mumbai's unique context. Through this exploration, we aim to offer actionable recommendations to stakeholders across sectors—

businesses, governmental agencies, civil society organizations, and beyond—committed to fostering gender equality and promoting women's leadership in Mumbai's dynamic business environment.

RESEARCH OBJECTIVES

1. To examine the strategies for advancing women's leadership
2. To learn about the challenges that women go through when women are in leadership roles

LITERATURE REVIEW

1. **Advancing women in healthcare leadership: A systematic review and meta-synthesis of multi-sector evidence on organisational interventions** by *Mariam Mousaa,b*, *Jacqueline Boylea,b,c*, *Helen Skouterisa*, *Alexandra K Mullinsa*, *Graeme Curriea,e*, *Kathleen Riacha,f*, *Helena J Teedea,d*, This paper focuses on organizational Interventions for Advancing Women in Leadership and meta-synthesis of multi-sector evidence on organizational interventions sheds light on effective strategies. This paper spans various sectors, including academia, health, government, sports, hospitality, finance, and information technology. The key drivers of organizational change include leadership commitment and accountability. The effective intervention categories include organizational processes which implement policies and practices that promote gender diversity and wareness and engagement that creates awareness about gender bias and fostering engagement and mentoring and networking that provides mentorship opportunities and building professional networks and leadership development which invests in leadership training and skill development and ultimately Support Tools that offers resources and support for career advancement. The focus is on measurable change across these intervention categories
2. **Deloitte Global's "Women in the Boardroom" report** highlights the representation of women in leadership roles in India. As of the latest report, women hold **17.1 percent** of board seats in India While there has been progress, boardroom diversity is still advancing at a slow pace. Addressing gender bias, promoting leadership development, and creating an inclusive environment are critical for further advancement.
3. **'Comparative analysis of women's position in leadership'** by *Jelena Blečić*, *Svetlana Vukotić*, *Vuk Mirčetić*. For generations, women have battled for equal rights. A crucial facet of their battle has involved combating prejudice within the corporate sphere. Many academics have been studying women's leadership in business. On the other hand, there is a specific vacuum in the literature on this topic. This essay seeks to analyze the current state of female leadership in business and make comparisons with the historical experiences of female executives. The statistical data used in this study came from a variety of representative sources. The study's findings and their theoretical and applied implications for the field suggest that factors other than gender typically influence leadership quality. Women in organizations and leadership roles may find this material interesting.
4. **'Factors effecting career advancement of Indian women managers'** by *Sumita Datta* and *Upasna Agarwal*. There are several different factors that affect women's career advancement and continuity in corporate India. This research aims to investigate the elements influencing the women's leadership pipeline within Indian organizations. Rich insights into the antecedent social-psychological factors of a women leadership pipeline were revealed by thematic analyses of the qualitative study on Indian women managers and their supervisor. These factors can be broadly classified into three categories: intra-personal, interpersonal, and organizational. The results of this study point to the need for developing organizational interventions that enable women professionals in forming their own leadership identities and navigating the complex social environment by providing excellent leader-member exchanges.
5. **'Women's Leadership Programs: Breaking Barriers and Shaping Success'** published by **The Economic Times**: The Center for Creative Leadership's Women's Leadership Development program is one of the best for developing women leaders. Participants in this program will learn how companies may thrive by developing exceptional leaders. The Center for Creative Leadership has always prioritized the development of women leaders. The group takes pride in having helped many women overcome barriers in the workplace.
6. **'Challenges of Women Leaders at the Workplace: An Empirical Study'** by *Rupa Khanna Malhotra*: The challenges faced by female leaders in the workplace are examined in this abstract, which also highlights the persistence of gender disparities and their impact on career advancement. Even with the enormous progress made toward gender equality, women continue to confront unique obstacles that prevent them from advancing in their careers and assuming leadership roles. The study investigates the institutional, cultural,

and personal factors that influence these difficulties and focuses on issues like gender bias, stereotypes, work-life balance, and limited access to networks and mentorship. It also examines the intersectionality of women's experiences, including how factors like age, race, and ethnicity may exacerbate hurdles.

7. For female leaders, the difficulty of juggling work and home obligations is frequently more severe. According to **Powell and Greenhaus (2010)**, balancing a profession while caring for a family is a "double burden" for women. This difficulty may impede professional advancement and reduce prospects for leadership positions.
8. The glass ceiling is a concept that **Morrison, White, and Van Velsor (1987)** address, underlining the institutional impediments that prevent women from reaching senior leadership positions. Women's career advancement may be hampered by issues like gender bias in hiring and promotion decisions, a lack of access to powerful networks, and a lack of representation in senior leadership positions.

RESEARCH CONCLUSIONS

Women face barriers that prevent them from advancing in their careers in many different areas, which results in a lopsided number of men in senior leadership roles. According to LinkedIn Economic Graph data, less than one-third of leadership positions are held by women worldwide. Even while women are now on equal with men in entry-level jobs and even dominate some industries, such education and consumer & retail, their advancement to leadership roles is still severely impeded by a variety of biases. For example, gender disparities still exist in traditionally male-dominated areas including manufacturing, utilities, technology, information, and media, which restricts the number of women who may enter the workforce and advance to senior positions.

Businesses that offer flexible, home, or hybrid work arrangements outperform others in elevating women to top management positions, according to a new Deloitte study. Businesses that offer flexible work arrangements are better at developing female leaders. The need that the largest 1000 enterprises have an independent female director and the right to six months of paid maternity leave are two of the measures India is taking to promote gender diversity.

After examining all the strategies to promote gender inclusivity, this paper has identified some notable strategies that would contribute to increasing women's participation.

1. **Offering workplace benefits beyond pay:** Offering paid parental leave for both mothers and fathers can support women in leadership roles by allowing them to take time off to care for a new child without sacrificing their careers. This benefit can help reduce the likelihood of women dropping out of the workforce after having children and can contribute to greater gender equality in leadership positions.
2. **Breaking the male line of succession:** Instead of automatically assuming that leadership positions will be filled by men, organizations can adopt gender-neutral succession planning processes that prioritize merit and qualifications over gender. This can help create opportunities for women to advance into leadership roles based on their skills, experience, and potential for success.
3. **Seeking employees who are willing to adapt:** Women in leadership positions often bring diverse perspectives and problem-solving strategies to the table. By seeking employees who are willing to adapt, organizations can capitalize on this diversity of thought and leverage it to drive innovation, creativity, and strategic decision-making.
4. **Encouraging leaders to take responsibility for their actions:** When leaders take responsibility for their actions, they set an example for others to follow. This fosters a culture of accountability where everyone, regardless of gender, is held accountable for their decisions and behaviors. This can help create a level playing field for women in leadership roles, ensuring that they are judged based on their performance and contributions rather than their gender.

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FORENSIC ACCOUNTING, A NEW PERSPECTIVE IN INDIA**Prof. Sujata Satish Kumkar**

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ABSTRACT

Forensic accounting is a specialized form of accounting focused on resolving financial issues.

Forensic accounting is a new concept which is a needed field as a result of frauds and scams increasing day by day in business world. Forensic accountants work with their clients and find out the best strategy to resolve the situation. Forensic accountant is needed to resolve financial disputes. They organize investigations, analyze available financial data, look for evidence of misconduct, and report their findings.

INTRODUCTION

Forensic accounting is a new expert field of accountancy which investigates scams and frauds and analyses, interprets financial information to be used in legal proceedings in the court. It uses auditing, accounting and investigative skills to conduct investigations into fraud and theft by way of investigative accounting and litigation support. The main aim of paper is to create awareness about the necessity and role of forensic accounting. All information is collected from secondary data. The paper also tries to provide framework for objectives, role of forensic accountant, job opportunities, techniques of forensic accounting, challenges of forensic accounting.

OBJECTIVE OF STUDY

- 1) To understand the concept of forensic accounting.
- 2) To Recognize the definition of forensic accounting
- 3) To study the framework of forensic account.
- 4) To learn the ways forensic accountants implement to investigate scam or frauds.
- 5) To see challenges of forensic accounting.

MEANING OF FORENSIC ACCOUNTING

Forensic accounting is a particular area of accounting which investigates fraud and analyze financial information which can be utilized in legal trials. Fraud is an activity that takes place in a social setting and has severe consequences for the economy, corporations, and individuals. White-collar fraud involves an intentional deception, by employees, management, owners, members, volunteers, vendors, customers, and anyone else with any relationship or association to a business, to inappropriately obtain money or other assets or services from a business. Some frauds are perpetrated by individuals, and some occur in collusion across the management-employee social boundaries or between insiders and outsiders. Forensic accounting is a mix of accounting, auditing and investigative skills to perform investigations of financial frauds. It is helpful for legal action and diagnostic Accounting.

DEFINITION OF FORENSIC ACCOUNTING:

“Forensic accounting is the action of identifying, recording, settling, extracting, sorting, reporting, and verifying past financial data or other accounting activities for settling current or prospective legal disputes or using such past financial data for projecting future financial data to settle legal disputes.”

FORENSIC ACCOUNTANT:

Forensic accountant is a professional person who tries to find out the root of any fraud. The genuineness of the results found by Forensic Accountant depends on the knowledge, skills, experience as compared to general accountant. A forensic accountant must be capable of integrating knowledge and skills in the examination, he should have knowledge of criminal and civil law. He should analyze, interpret, report, and find out testimonial support of evidence.

SPECIALIZED FORENSIC KNOWLEDGE**▪ Bankruptcy, Insolvency, and restructuring**

Forensic accountants can be appointed on behalf of the debtor, the individual or organization already in bankruptcy, or for the creditors, those individuals or entities that remain to be paid. The role for the work may be to assist the trustee in managing the financial affairs, searching for hidden assets, identifying pre-bankruptcy transfers, recovering funds and assets to be used to satisfy creditors, or performing business valuations to be

used in resolving the bankruptcy filing.

▪ **Computer Forensic Analysis**

Two main applications for computer forensics are preservation and recovery of electronic information for evidence purposes, and electronic discovery for litigation support. As technology moves toward “cloud” computing, whereby information is maintained and accessed through the Internet, the physical location of the data will exist outside of the business, and likely outside of the country. The latest gadgets, including Blackberries, iPhones, iPads, laptops, and cell phones, all have the ability to connect to the Internet and transmit electronic information.

▪ **Family Law**

The forensic accountant can have a number of roles within marital dissolution (divorce and post-divorce) engagements, starting with the role of a strategist working with counsel and the client has filed the divorce.

▪ **Financial Statement**

Misrepresentation determine whether the financial statements properly reported the balances, results, and required disclosures. If found to be improper, the forensic accountant could identify the improprieties of the financial statements, such as overstatements, understatements, omissions, and improper accounting treatments,

▪ **Fraud Prevention, Detection, and Response**

Fraud encompass a large area of opening for forensic accountants, in preventing fraud schemes from occurring, investigating fraud schemes that have occurred, and assisting owners and organizations in implementing better controls and procedures in response to a fraud scheme having been committed.

▪ **Business Valuation**

Forensic accountants are called upon to conduct business valuations within a number of reasons like purchases and sales of companies, and shareholder buying and partner buy-outs, the value of the business likely may be the driving force behind a fraud

DIFFERENT TOOL AND TECHNIQUES USED FOR FORENSIC AUDIT

Data analysis, Document examination, Interviewing , Background checks , Asset tracing , Surveillance, Undercover operations , Benchmarking , Ratio analysis, System analysis, Specialist software- like data matching analysis, Exception reporting like this many techniques are used for Forensic Audit.

JOB OPPORTUNITIES TO FORENSIC ACCOUNTANTS

The demand for forensic accounting continues to grow almost on a daily basis so there are lot of job opportunities for forensic accountant. Roles offered to Forensic Accounting and Fraud Detections are Internal Auditing Manager, Anti-Money Laundering Specialist, Senior Forensic Accountant, Operational Risk Consultant, Fraud Investigator, Financial Forensic Analyst, Manager of Forensic Accounting, Senior Forensic Consultant.

CHALLENGES OF FORENSIC ACCOUNTING IN INDIA

- 1) The main challenges in forensic accounting include the lack of regulation and control over the profession entry
- 2) There is a the lack of public recognition and occupation reputation for forensic accountants,
- 3) There is also the lack of awareness and education , and the need for better practices and implementation
- 4) Forensic accounting is costly as it requires a long period of time
- 5) In India, most of the financial fraud , there is involvement politicians, so it is vital to find evidences against them.
- 6) Due to liberalization and globalisation, new investors from foreign countries invest in India and it is difficult to take legal action against financial fraudster from other countries.
- 7) Because of continuous adoption of new techniques of Information and Technology by fraudster, it is difficult to Forensic Accountant to cope up with them.
- 8) There is severe shortage of qualified accountants with adequate technical knowledge of forensic issues in India.
- 9) It is not mandatory for companies to appoint forensic accountant in companies.
- 10) There is no specific guideline or act on forensic accounting in India.

CONCLUSION

Students today have a choice when deciding on a school to attend as well as their major , to follow the traditional accounting program or to specialize right from the beginning in the forensic accounting field .Forensic Accounting should not become a matter of specialization and expertise of a chosen few. It should be made a part of the syllabus and curriculum at the undergraduate as well as the post-graduate level across the country. Forensic accountants can provide valuable insights into the target company's financial health, identifying potential risks and opportunities. This information can help businesses make more informed investment decisions and mitigate their exposure to risk. At the same time, requisite amendments in the law should be undertaken to establish the importance of forensic accounting in general and forensic accountants in specific.

DIFFERENT APPROACHES USED BY SECAAS MODEL IN CLOUD COMPUTING

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TamilNadu²Assistant Professor, Rohini College of Engineering & Technology, Kanyakumari District, Tamilnadu, India**ABSTRACT**

Cloud computing has revolutionized the way data is stored, managed, and processed by leveraging remote servers accessed over the Internet. However, with the adoption of cloud services comes an array of security challenges, prompting the emergence of the Security as a Service (SecaaS) model. This model aims to provide flexible and scalable security solutions to users, addressing concerns such as data privacy, integrity, and access control. The way of using remote servers placed on the Internet for storing, managing, and processing data, rather than using a local server or a personal computer is called as Cloud computing. In cloud computing, major issues like security and privacy is of great concern. Various challenges are there for protecting the cloud from different attacks. The basic duty of the Security as a Service model is to give malleable security for the users for preventing different attacks. The Security as a Service model is using various approaches named SLA based approach via SPECS and Crypto Coprocessor approach to provide ductile security for its users. In this paper, we put great emphasis on different approaches utilized by the Security as a Service model and to suggest a system that gives utmost safety to the cloud users.

Keywords: Cloud computing; security; integrity; threats; attacks

I. INTRODUCTION**A. Cloud Computing**

The key points of Cloud computing is that it is convenient, ubiquitous and a way for using a shared pool of computing resources like servers, networks, applications, and services. The structure of cloud computing depends upon some portage models: Security as a Service (SaaS) which yields software service in the application level; Platform as a Service (PaaS) issues software services, software platforms and libraries that supports the expansion of application level services; Infrastructure as a Service (IaaS) which permits the utilization of remote hardware resources in flexible way. There is more number of deployment ways to apparatus the cloud architecture [5]. In the present era cloud computing face major issues in security they are as follows: the duplication of Authentication and Identity Information by different Cloud Service Providers, lack of Auditing and Accountability, lack of Privacy and Trust Management in cloud [6].

B. Security-as-a-Service

Security as a Service (SecaaS) is a cloud computing models that yields security services for the cloud based customers [7]. As the name suggests the main use of the Security as a Service model is to issue security to the cloud providers and also to the residents of the cloud. In response to the requirements of the user extra features are also provided by the SecaaS [1]. The user can easily define their security with the help of SecaaS model. Even after the improvement of technology, the issue of privacy and security of data still persist [8].

C. Security-as-a-Service Architecture

The rudimentary security architecture of the Security as a Service model encompasses various elements like Tenant Virtual Machines (TVM), Tenant Specific Attack Detection (TSAD), Host Based Security Tools (HBST), and Service Provider attack Detection (SPAD), Node Controllers and then the physical devices [1].

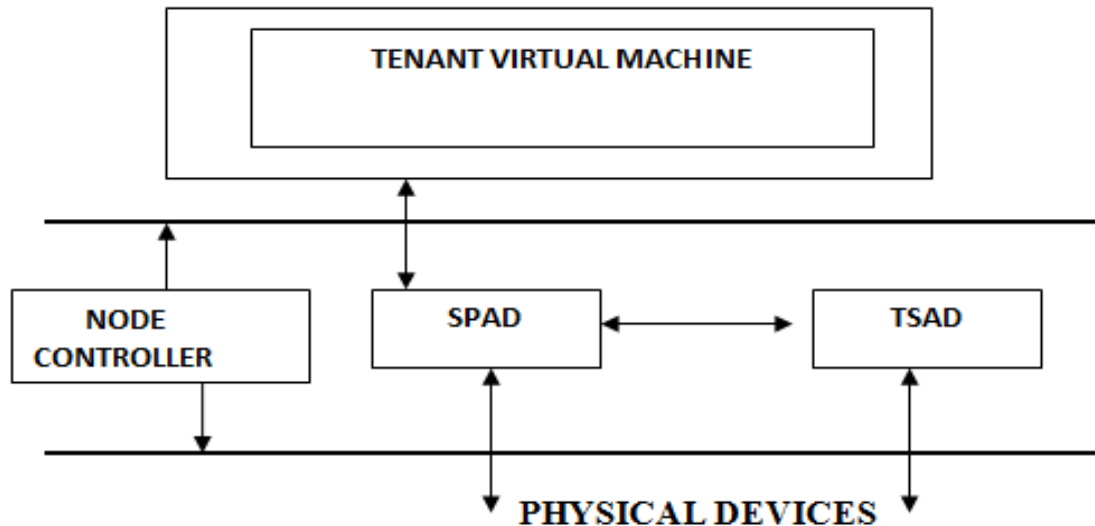


Fig. 1. Basic Security Architecture

II. RELATED WORK

An exhaustive research has been conducted in the structure of a secure cryptographic co-processor and data security in the cloud domain. An utter figure on different experimentation and style in cloud computing has been shown in [10]. Numerous researches that gives data security is still taking place on [5]. A Service Level Agreement based structure is utilized for giving a strong security to the users of the cloud [5]. Also, in [8] the author built a coprocessor structure to provide security to the data of the user.

In [1], security architecture is depicted for yielding security to the users. Here, the security is provided as a service to the cloud users. In that the cloud users are given with the required security which is offered by them during the Service Level Agreement (SLA) period. JoelAhmed M.Mondol, in his paper [11] described about using Field Programmable Gate Arrays for the security of the Cloud. As the cloud technology is expanding vastly, the security thoughts are also escalating. Henceforth, the cloud security has become an essential research place. The authors of [1] provides an outline about the confidentiality, integrity, and availability problems overlooked by the users of the cloud

III. THE SPECS APPROACH

The SPECS approach is structured on the plan of security parameters which is incorporated the SLAs of cloud. The key notion in SPECS is the management of security in Service Level Agreement. This will permit the continuous monitoring, the negotiation, and the enforcement of security levels. An end user may settle his security features through the allocated SPECS platform [2].

A quintessential life cycle of SLA is classified into three major phases:

- 1) **Monitoring Phase:** a signed SLA is valuated for its real ratio of compliance or for fine if in breach.
- 2) **Negotiation Phase:** the customer(s) and provider(s) perform an arbitration process on the services/requirements to discover agreement on what the SLA should successfully supply.
- 3) **Enforcement Phase:** The effort required to esteem the Service Level Agreement (i.e., keeping an experienced QoSec) are successfully taken.

The SPECS approach focuses to provide tactics to mention the requirements for the cloud security and also to check the security features extended by CSPs. SPECS structure thinks to provide standardized ways to monitor, to negotiate, and to enforce the security parameters described in SLA. The SPECS motivates at sorting out the represented open issues of cloud security, yielding tools for managing the demanded security in Service Level Agreements as a basis to authorize Secaas.

The SPECS approach has three possible usage scenarios for indicating various directions to utilize the platform and to run cloud services and applications:

- a) **Third Party Security Platform:** The SPECS administrators execute the Platform on resources received from private /public cloud and yield security services to the end Users of cloud.
- b) **Hosted Platform:** SPECS executes on their regional resources and it provides extra security services for sustaining a consented QoSec.

c) *User Software*: End users of the cloud utilize SPECS on their local resources to install prerequisite security features.

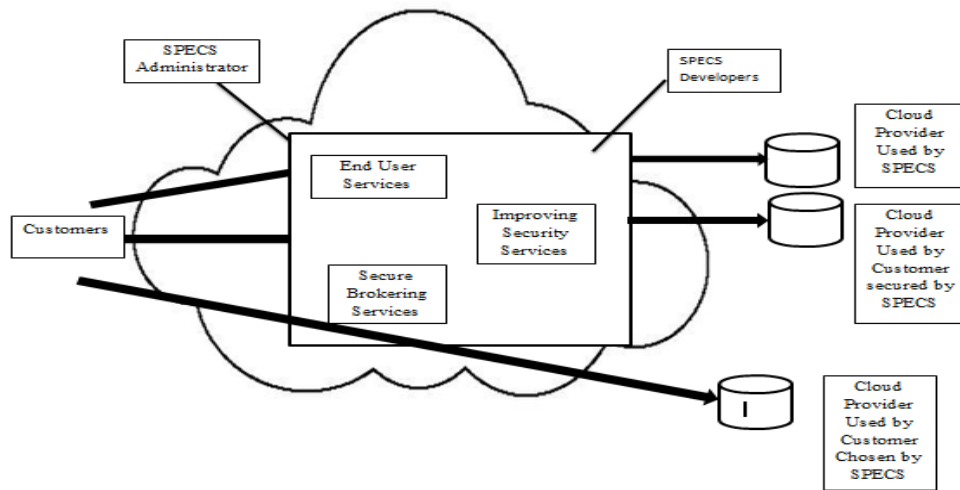


Fig.2. SPECS Third Party Security Interaction

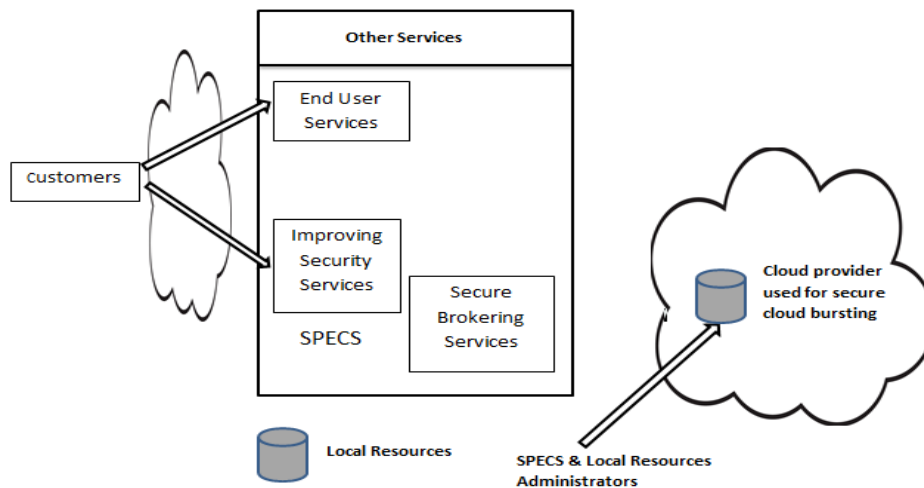


Fig.3. SPECS Hosted Platform Interaction Model

IV THE CRYPTO CO-PROCESSOR APPROACH

A. An Overview Of Crypto Coprocessor

Co-processors are a subordinate processor which benefits increasing of system performance by governing the processor rigorous applications and responsibilities. Co-processors cannot procure commands from the Memory like the Processors. It gears the security protocols. Cryptographic co-processors emphasis only on encryption and decryption.

The Cryptographic co-processors authorize key management by keeping the keys securely. The values of the secret key are embedded in the subsystem of the co-processor. The host systems are unable to discover the values of the secret key. It licenses the parallel processing.

B. Crypto coprocessor Architecture

The Crypto coprocessor is strongly doing the encryption and decryption process. The security and privacy can be enhanced after providing the whole control to the end user. The co-processor comprises three main modules [3].

- 1) **The Algorithm Core:** Comprises of a set of encryption and decryption standards. A random bit generator is positioned for creating essential keys.
- 2) **The Operation Controller:** Controls the signal from the host. It executes on the signal and permits to the algorithm core.
- 3) **Buffers:** There are two types of buffers: incoming and the outgoing. The buffers operate as the impermanent

storage. The buffers become triggered after receiving commands from the operational controller. Primarily the user selects the encryption algorithm from algorithm core, and then the co-processor is commenced by the operational controller to download the algorithm from the core. Eventually, the co-processor processes the data.

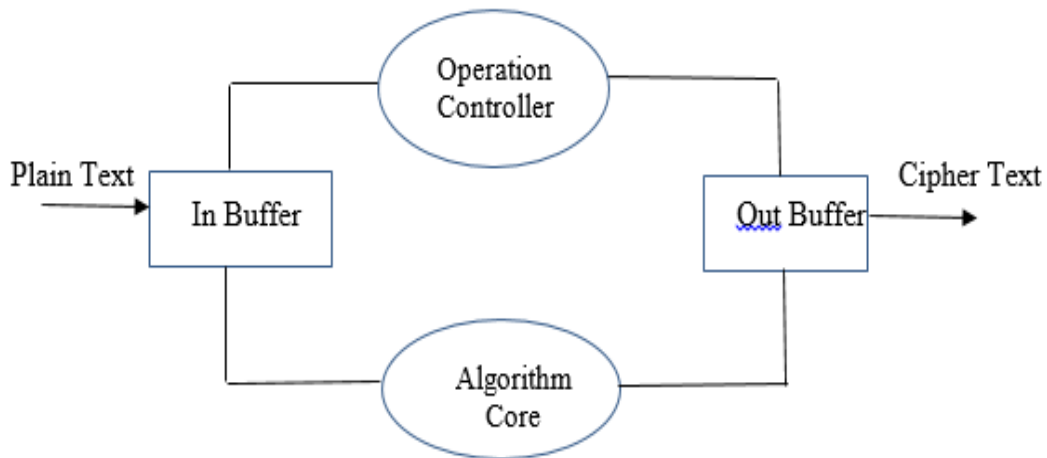


Fig.5. Crypto Co-processor Architecture

V. THE PROPOSED SYSTEM

Despite of the security delivered by several CSP’s, the cloud users are encountering numerous security and privacy problems. The data is being degraded or pilfered by other parties as they are employed on a same cloud. So for attaining the integrity of the data, we are recommending a Secaas architecture that consists of the authentication and authorization components [7].

Our recommend ed system comprises data and privacy qualities, security protection and measures, security points, and public safety services. In this paper, the authentication and authorization of the end users is presented. The recommended system in fig.6 is for the welfare of the legitimate users by overriding the authentication and the authorization.

OpenSSL-Based Identity Authentication

1) The Netscape Corporation structured the Secure Sockets Layer (SSL). The key target of the SSL is providing the secure network Fig.6. Authentication and Authorization module of Secaas transmission, for preventing communication data from being eavesdropped. SSL offers confidentiality, integrity, and authentication of data. The SSL is positioned among the application and transport layer of the network. The SSL protocol is classified into two different layers.

a) SSL Record Protocol: This delivers encryption compression, high-level protocol for data encryption, support, and other elementary functions. It is positioned on top of the consistent transport protocol.

The OpenSSL-Based Identity Authentication is utilized for authentication.

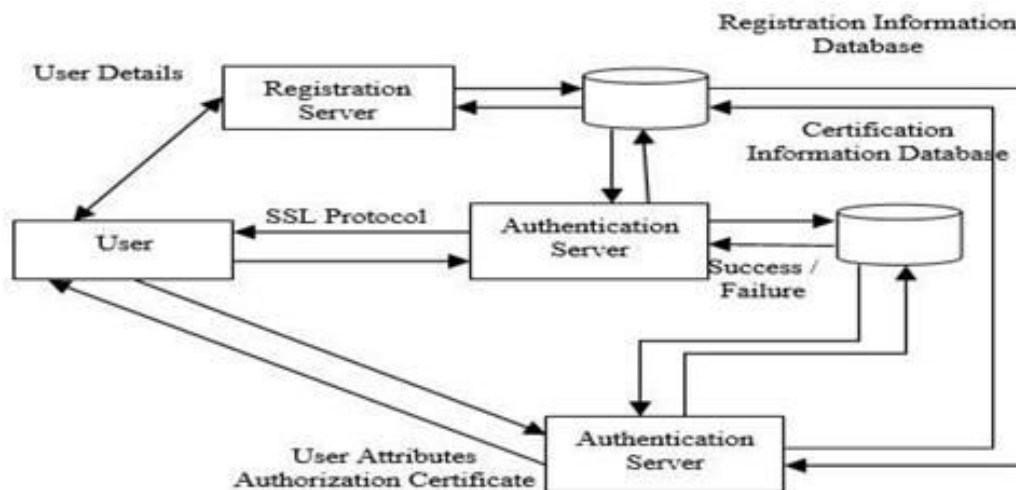


Fig.6. Authentication and Authorization module of Secaas

- b) **SSL Handshake protocol:** It is positioned on top of the SSL record protocol. It aids the transmission of data before preparing the communication.
- 2) The features of the SSL protocol are as follows.
- a) The connection in between the server and the user is protected by the SSL protocol. It utilizes the encryption algorithm to encrypt the data, thus sharing the data integrity.
- b) Operation of the SSL protocol is calm. It is also constructed on the web browsers and servers. We can utilize the SSL protocol in the systems simply by not doing any alterations.
- c) SSL protocol is fast, easy to use, and low cost.

OpenSSL practices C language for the development, and authorizes most agreement of the algorithm. It delivers a range of encryption algorithms, digest algorithms and key exchange algorithms, and general purpose cryptography library. The establishment of the SSL communication process is displayed in the Fig. 7.

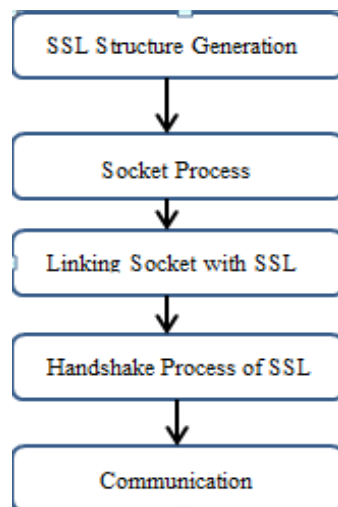


Fig.7. SSL communication process establishment

A. Attribute Based Access Control

Authorization is frequently used to control users for gaining access to directories, files, servers and other network resources. It averts admission to the objects of the subjects for making sure that the resources of the data to be handled should be under some possible range. Attribute-based authorization attains large data authorization service, and progresses the authorization.

Because of this, the users and data can be prepared fine-grained depends on the attributes. With the help of this mentioned system, the security problems can be resolved.

IV. CONCLUSION

In this paper, we proposed our authentication and authorization based SecaaS architecture. Our recommended system delivers improved security than the different methods that we have clarified earlier in this paper. The SecaaS assimilates the security services in a combined infrastructure.

V. ACKNOWLEDGEMENT

I would like to extend my sincere thanks to the coauthor who have offered me their visions and assisted me to write this paper, without whom this work would have not been possible. Also, would like to thank the organization for supporting and motivating in the completion of the paper.

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HARNESSING GENERATIVE AI: REVOLUTIONIZING RESEARCH ENDEAVORS

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ABSTRACT

Generative Artificial Intelligence (AI) has emerged as a transformative tool in various domains, including research. This paper explores the burgeoning landscape of generative AI applications in research endeavors, examining its potentials, challenges, and ethical implications. Through a comprehensive review of existing literature and case studies, this paper elucidates the diverse ways in which generative AI is reshaping research methodologies, facilitating innovation, and accelerating scientific discoveries. Additionally, it discusses the ethical considerations surrounding the use of generative AI in research and proposes strategies for responsible implementation. By delving into the current state-of-the-art and future prospects, this paper provides insights into harnessing generative AI to advance research across disciplines.

Keywords: Generative AI, Research, Innovation, Ethical Implications, Scientific Discoveries

INTRODUCTION

Generative Artificial Intelligence (AI) algorithms, exemplified by Generative Adversarial Networks (GANs) and Variational Autoencoders (VAEs), showcase remarkable prowess in crafting realistic data, images, text, and music. While traditionally lauded for their creative applications, these techniques are now penetrating scientific research domains, instigating a profound revolution in conventional methodologies and paving pathways for novel exploration. This paper endeavors to dissect the multifaceted role of generative AI in research, illuminating its profound impact, formidable challenges, and intricate ethical considerations.

Beyond their artistic endeavors, generative AI algorithms have seamlessly transitioned into scientific research, ushering in an era of innovation and discovery. By synthesizing authentic-looking data and imagery, these algorithms facilitate experimentation and analysis across various scientific disciplines. Furthermore, their ability to generate coherent textual narratives and musical compositions expands the horizons of linguistic research and creative expression.

This paper embarks on a comprehensive investigation, shedding light on the transformative potential of generative AI in research endeavors. It delves into the implications of harnessing generative AI for scientific inquiry, examining its capacity to accelerate progress, mitigate data scarcity, and inspire new avenues of investigation. Moreover, it confronts the challenges inherent in the adoption of generative AI, including issues of data bias, model interpretability, and ethical dilemmas.

Ethical considerations loom large in the integration of generative AI into research practices. As these algorithms generate increasingly realistic content, questions of authenticity, manipulation, and responsible usage emerge. This paper confronts these ethical quandaries head-on, advocating for conscientious implementation strategies and principled frameworks to ensure equitable and transparent research practices.

In essence, this paper serves as a beacon guiding researchers through the transformative terrain of generative AI in scientific inquiry. It offers insights into its potential, navigates its challenges, and navigates the ethical complexities inherent in its adoption. By fostering responsible implementation and strategic foresight, this paper empowers researchers to harness generative AI as a catalyst for innovation, propelling research endeavors to new heights of excellence and societal impact.

LITERATURE REVIEW

Generative AI has garnered significant attention in recent years for its potential to augment and even transform various aspects of research across diverse domains. In the field of healthcare, generative AI models have been employed for drug discovery, medical imaging analysis, and personalized medicine [1]. For instance, GANs have been utilized to generate synthetic medical images for training machine learning algorithms, thereby mitigating issues related to data scarcity and privacy concerns [2]. Similarly, in materials science, generative AI algorithms have been leveraged to accelerate the discovery of novel materials with desired properties [3]. These applications underscore the utility of generative AI in expediting research processes and overcoming conventional limitations.

Moreover, generative AI has found applications in natural language processing (NLP) research, enabling the generation of coherent and contextually relevant text. Recent advancements in language models, such as OpenAI's GPT series, have demonstrated remarkable proficiency in tasks such as text generation,

summarization, and translation [4]. These models not only facilitate linguistic research but also raise pertinent questions regarding the authenticity and manipulation of generated content. Furthermore, generative AI techniques have been instrumental in advancing research in fields like art, music, and design, fostering creativity and pushing the boundaries of human expression [5].

Despite the promise of generative AI, its widespread adoption in research is not devoid of challenges and ethical considerations. Issues such as data bias, model interpretability, and algorithmic fairness pose significant hurdles that necessitate careful scrutiny and mitigation strategies. Moreover, the ethical implications of generating synthetic data, particularly in sensitive domains such as healthcare and finance, demand a nuanced approach to ensure privacy, security, and accountability [6]. By critically examining existing literature and case studies, this paper aims to elucidate the complex interplay between generative AI and research, offering insights into its potential benefits and ethical dilemmas.

Research method: The methodology adopted in this paper is qualitative, emphasizing a thorough examination of existing literature pertaining to the utilization of generative AI in research. It places significant emphasis on peer-reviewed articles, conference papers, and scholarly publications sourced from reputable sources. Through a meticulous analysis of these materials, the paper aims to distill valuable insights concerning the applications, challenges, and ethical dimensions inherent in the integration of generative AI within research endeavors.

The chosen approach involves a comprehensive review of pertinent literature to provide a robust foundation for understanding the multifaceted role of generative AI in research. By scrutinizing peer-reviewed articles and conference papers, the paper seeks to uncover diverse perspectives and methodologies employed in leveraging generative AI across various domains. Moreover, scholarly publications from reputable sources serve as reliable repositories of knowledge, enabling the synthesis of nuanced insights and critical reflections on the subject matter.

In addition to the review of academic literature, the methodology incorporates the examination of case studies and real-world examples to enrich the analysis. By elucidating practical applications and potential pitfalls of generative AI techniques in different research domains, these illustrative examples offer valuable context and depth to the discussion. Through the integration of case studies, the paper aims to provide concrete illustrations of how generative AI is being utilized, showcasing both its promises and limitations in real-world settings.

The qualitative nature of the methodology enables a holistic exploration of the subject matter, allowing for a nuanced understanding of the complex interplay between generative AI and research. By synthesizing insights gleaned from diverse sources, including academic literature and practical examples, the paper strives to offer a comprehensive overview of the opportunities and challenges presented by generative AI in research endeavors.

In summary, the research methodology adopted in this paper entails a qualitative approach centered on a thorough review of existing literature, supplemented by the analysis of case studies and real-world examples. Through this multifaceted methodology, the paper endeavors to provide a nuanced understanding of the implications of generative AI in research, encompassing its applications, challenges, and ethical considerations.

CONCLUSION

Generative Artificial Intelligence (AI) stands poised as a transformative force in research, promising groundbreaking pathways for exploration and innovation across varied fields. Its application spans from healthcare and materials science to linguistics and creative arts, where it showcases prowess in generating synthetic data, facilitating experimentation, and enhancing human creativity. However, the integration of generative AI into research practices demands vigilant attention to ethical dimensions, encompassing concerns such as data privacy, bias mitigation, and algorithmic transparency.

The realization of generative AI's potential hinges upon fostering interdisciplinary dialogue and collaboration. By nurturing an environment of open discourse and mutual exchange, researchers can navigate the ethical complexities inherent in its adoption while harnessing its transformative capabilities. This necessitates a concerted effort to establish guidelines and frameworks that ensure the responsible and equitable deployment of generative AI in research endeavors.

In essence, while generative AI holds the promise of revolutionizing research methodologies, its ethical implications underscore the importance of a conscientious approach. Through collaborative endeavors and ethical oversight, researchers can harness the power of generative AI to drive innovation, advance knowledge, and address societal challenges in a responsible and equitable manner.

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A STUDY ON BUY-NOW-PAY-LATER AND ITS IMPACT ON GENERATION Z OF MUMBAI SUBURBAN

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ABSTRACT

The investigation delves into the correlation between BNPL and its impact on Gen Z impulsive purchasing and the inclination towards overconsumption among the Generation Z cohort regarding their utilization intentions of Buy Now Pay Later (BNPL) services offered by Financial Technology (Fin Tech) and E-Commerce entities. The rise of e-wallets and e-money like Paytm postpaid, Amazon pay later, Zest money, and Flipkart pay later has emerged as a notable factor necessitating a shift in payment practices among contemporary individuals. Not limited to mere alterations in payment modalities, this trend is also indicative of the enhanced ease with which individuals today can procure goods online via smartphones. This disruptive shift has led to heightened consumerism, particularly evident among the Generation Z demographic often referred to as the future digital natives. Predominantly comprising recent graduates, college students, and individuals pursuing higher education without a fixed income, this scenario is perceived by Fin Tech companies and E-Commerce platforms as a lucrative opportunity to boost their sales through BNPL services tailored to address the needs of Generation Z. The scholarly study endeavors to scrutinize the perspectives of students regarding Buy Now Pay Later alternatives, employing a mix of primary and secondary data sources. Primary data is acquired through surveys conducted digitally using questionnaires, while secondary data is gleaned from a variety of sources such as journals and articles. Consequently, this research seeks to elucidate Generation Z's attitudes towards BNPL alternatives and explore the underlying psychology behind their adoption of such payment methods.

Keywords: Generation Z's, The BNPL(buy now pay later)

1. INTRODUCTION

Generation Z, often referred to as Gen Z, is the demographic cohort succeeding Millennials and preceding Generation Alpha. While there's no universally agreed-upon definition, Gen Z typically includes individuals born between the mid-to-late 1990s and the early 2010s. They are the first true digital natives, having grown up in an era of rapid technological advancement, ubiquitous internet access, and social media. Generation Z is highly proficient with technology, which significantly influences their financial behaviors and attitudes compared to previous generations, influenced by their unique upbringing and the socio-economic landscape they've encountered. They are comfortable using mobile apps, online banking, and digital payment platforms for managing their finances. Despite their young age, many Gen Z individuals display a heightened awareness of financial matters. They are more likely to seek financial independence early, driven by concerns about economic stability and the rising cost of living. Compared to previous generations, Gen Z exhibits a more cautious attitude towards debt. They are wary of accumulating credit card debt and are more inclined to seek alternative payment methods or financial products with favorable terms.

With the total population of almost 50% of the population of Indians it will be fascinating to examine whether there is a link between impulsive buying and over consumption with the bnpl payment system in generation Z. Therefore this study explores the problem within one group of over consumption impulsive buying and Z generation by examine their online impulsive buying behaviour and system that encourage over consumption in online retail settings.

2. LITERATURE REVIEW

a. Della Ayu Zonna Lia and Salsabilla Lu'ay Natswa in their research paper they tired to explores the relationship on impulsive buying and the overconsumption tendency of Z Generations on how their intentions to use the BNPL (Buy Now Pay Later) services provide by FinTech, e-commerce or an OTA (Online Travel Agents). . The results showed consumers tended to have emotions, low cognitive control, spontaneous behavior, and closeness between objects and buyers regardless of finances or other consequences. This certainly has an impact on purchasing attitudes that lead to overconsumption or impulsive buying.

b. Based on research conducted by Sari shows that the most pay later users are Generation Z which is 79% of the total respondents who have been studied, of which 57% of those respondents are students or students. The result suggests that generation Z with pay later has become an integral unit. Although they do not have income yet, the behavior of this generation to conduct impulsive buying with pay later method is very high at 79%.

c. Purnima Singh and Chrysann D'Souza, (2022) in their paper 'Buy Now, Pay Later' – Evolution of Consumer Credit have thrown light on the various risks which are consequence of the BNPL. The most

important being the credit risk – defaulting by customers which may bring a cash crunch to the BNPL companies and interest risk – rise of interest on loans borrowed from lenders by the BNPL companies.

d. Di Maggio, Marco, Emily Williams, and Justin Katz.(2022) in their working paper titled "Buy Now, Pay Later Credit: User Characteristics and Effects on Spending Patterns' have also expressed the same concern of consumers overspending and making them purchases unnecessary goods which are of least utilization to them. Thus, pushing the consumers into vicious credit cycle of paying the unpaid bills and leading to financial distress.

3. Research Gap

From the literature review, it is discovered that studies have focused on the frequency of purchases and usage of BNPL, but there is lesser coverage on the area of understanding the relation between BNPL and its impact Gen Z . This research paper brings to light the correlation between BNPL and its impact Gen Z.

4. OBJECTIVES

- To analyse the awareness of ‘buy now, pay later concept’ among Generation Z individuals
- To investigate the acceptance of adopting buy now pay later among Generation Z individuals
- To know the financial impact of BNPL usage on Generation Z individuals

5. RESEARCH METHODOLOGY

In this study, the data is obtained from both primary and secondary sources. The primary data is collected using questionnaire method Whereas, the secondary data is collected from the newspapers, magazines, websites etc.

Sample Design: The method of Convenience sampling has been used to collect the data from the respondents.

Sample Size: The sample size is 100.

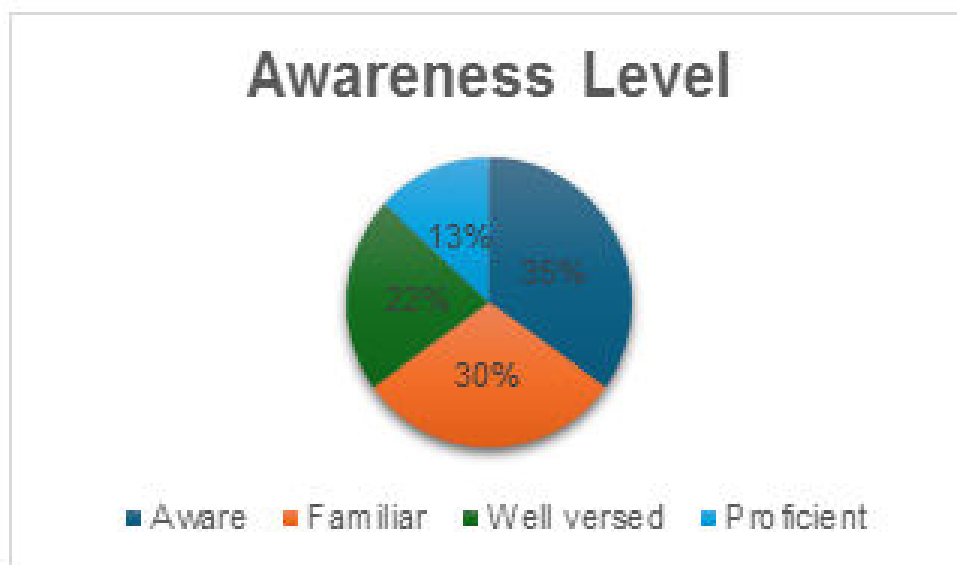
Data Analysis and Interpretation: The data is analysed and interpreted using Microsoft Excel 2010.

6. LIMITATIONS OF THE STUDY

1. The study is limited to Mumbai Suburban because of time constraints.
2. Sample size used for the study is small. Hence, the results cannot be taken as universal

7. Data Analysis and Interpretation

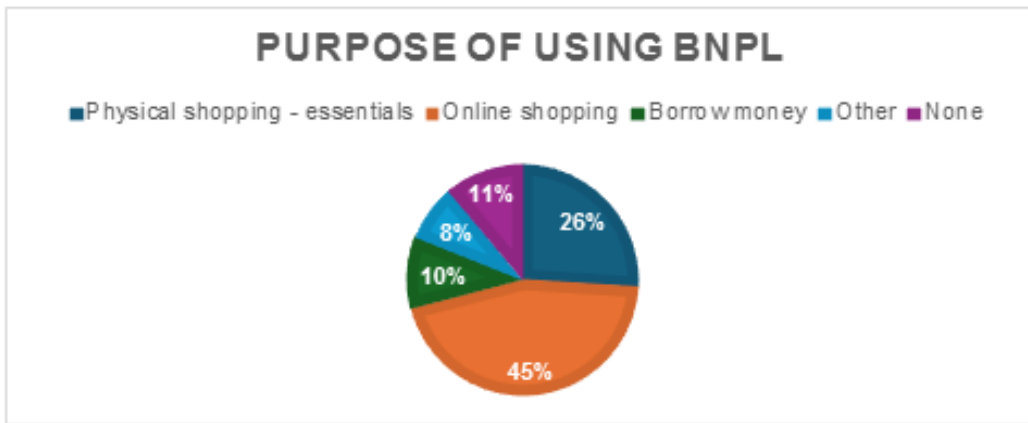
1. Awareness Level



Source: Primary Data

The above Chart indicates that of the 35 % respondents, 30% respondents have a fair knowledge of the BNPL concept.

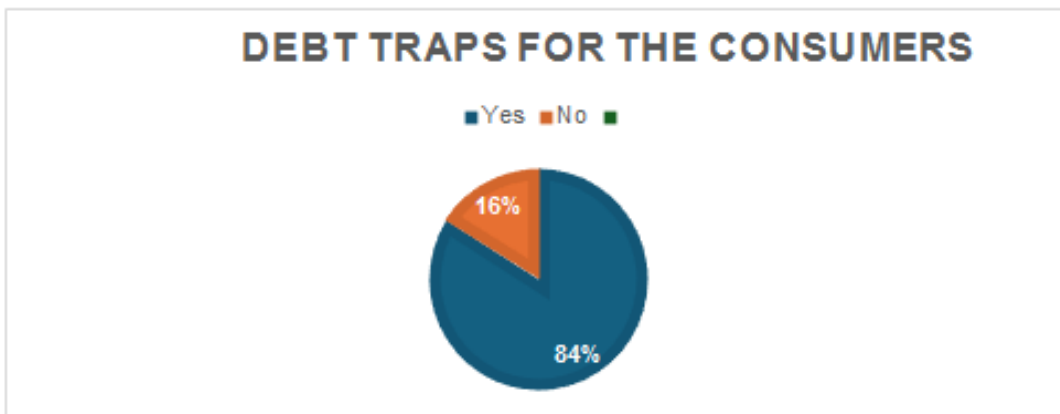
2. Purpose of using BNPL



Source: Primary Data

The above chart sheds light on usage of BNPL, whereby it is found that the purpose of using BNPL is scattered and the Online Shopping form the largest share. This indicates though the model has been accepted and used.

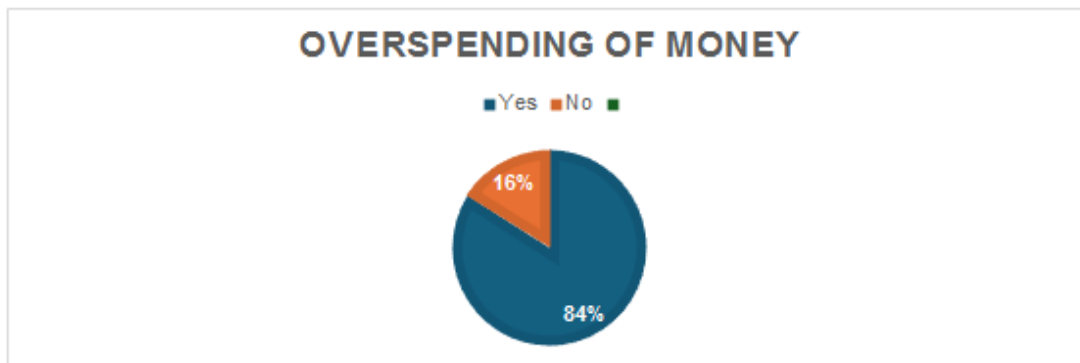
3. Do you think that BNPL services are the Debt traps for the consumers ?



Source: Primary Data

From the above pie chart we can that 56 % people thinks that buy now pay later service are debt trap and 10 % believe that it is not a debt trap. and 34% are not sure about it.

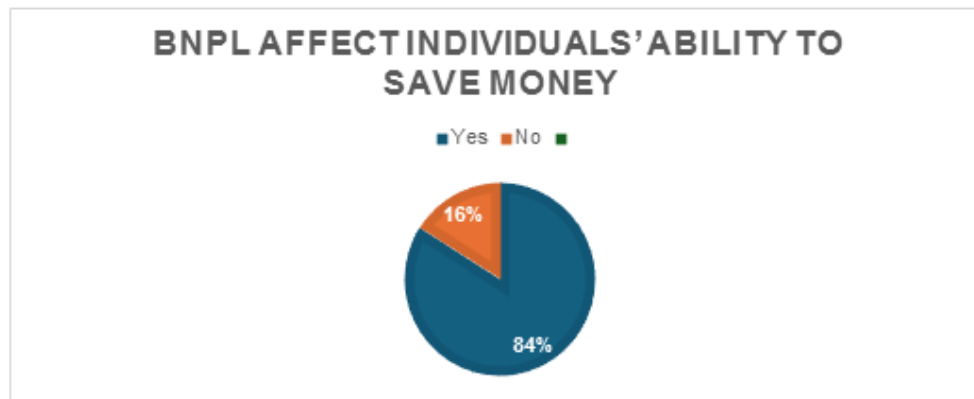
4. Do you think BNPL services results in Overspending of money ?



Source: Primary Data

From the above pie chart we can see that 78% respondents think that buy now pay later services lead to over spending of money and 22 % think it does not lead to over spending.

5. Does use of BNPL affect individuals' ability to save money or plan for future expenses?



Source: Primary Data

As savings are one of the important habits in country like India buy now pay later options are affecting the saving habits of generation Z . around 84% respondents think it affects the saving habits and 16% thinks it does not.

8. FINDINGS

- 1 The above studies show that, the respondents are aware of the BNPL credit model.
2. Online Shopping is the largest share for the purpose of using BNPL
3. Buy now pay later service is a debt trap
- 4 Buy now pay later service lead to over spending of money
- 5 Buy now pay later service affects individuals saving habits.

9. CONCLUSION

From the above research studies, it can be concluded that, with proper awareness creation and regulatory measures, the BNPL will gain momentum. Simultaneously, there is a need to keep checking, as an unregulated financial services sector can be the cause of the creation of a credit bubble. As easy credit is available with a single click, it tempts consumers to buy unnecessary goods, increase the credit burden, and push the economy towards artificial growth, but in reality, it may be debt spiralling upward into a vicious cycle. This certainly has an impact on purchasing attitudes that lead to overconsumption or impulsive buying. It has had a negative impact on Gen Z by using BNPL derivatives. As there are side effects of the BNPL, the governing bodies have to quickly swing into action and initiate appropriate measures to keep this kind of credit model under restraints and the economy safe.

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ADOPTION OF DIGITAL PAYMENT IN THE WHOLESALE MARKETS OF SOUTH MUMBAI**Prajakta Rane¹ and Reshma Jaisinghani²**Research Scholar¹ and Guide², M.Com Department of Accountancy, Jai Hind College**ABSTRACT**

This research paper investigates the adoption of digital payments within the wholesale market of the South Mumbai region. With the rapid advancement of technology and the government's push towards a digital economy, there has been a notable shift in payment preferences among wholesalers. The objective of this research is to examine the factors that impact the adoption of digital payment methods in the wholesale industry, encompassing technological frameworks, regulatory policies, and cultural aspects. Furthermore, it assesses the impact of digitalization on the efficiency, transparency, and security of transactions within the wholesale ecosystem. Through a combination of qualitative and quantitative research methods like electronic survey forms & interviews with the wholesalers, this paper examines the current landscape of digital payments in the wholesale market of India. Furthermore, it assesses the impact of digitalization on the efficiency, transparency, and security of transactions within the wholesale ecosystem. By shedding light on the drivers and challenges of digital payment adoption in the wholesale market, this research contributes to a better understanding of the journey of India to a cashless economy and informs policymakers, businesses, and stakeholders about strategies to promote and facilitate the transition to digital payments.

Keywords: Adoption of Digital Payment, B2B Cashless Economy, Cyber Frauds, Wholesalers, Wholesale Market.

INTRODUCTION

A Wholesale Market can be defined as a market where traders buy goods from a manufacturer in bulk, store them in warehouses, and re-sells the goods to business houses or retailers to further sell the goods to end consumers. A wholesaler is a company or an individual who buys large amounts of products from producers, farmers, manufacturers, and vendors. Wholesalers in South Mumbai play a crucial role in the distribution of goods across various industries. They typically operate in bustling areas like Crawford Market, Kalbadevi, Bhuleshwar, Mangaldas Market, MJ Market, Manish Market, Lohar Chawl, Byculla Vegetable & Fruit Market, Girgaon, Madanpura area of Byculla, etc. Recent years have witnessed a notable increase in the use of digital payment methods by Indian businesses, largely due to changes in consumer preferences, government initiatives, and technological advancements. Overall, the landscape of digital payments in Indian businesses is rapidly evolving, driven by technological innovation, regulatory reforms, and changing consumer behavior. As businesses continue to embrace digital transformation, digital payments are expected to play an increasingly integral role in India's economic growth and financial inclusion efforts.

As digital payment infrastructure continues to evolve and mature, wholesalers are increasingly embracing digital payment solutions.

REVIEW OF LITERATURE

Seethamraju, Ravi and Diatha, Krishna Sundar (2018) talk about how the costs are preventing the widespread acceptance of digital technologies, as well as how they are not reliable or easy to access.

Ethan Ligo, Badal Malick, Ketki Sheth, Carly Trachtman (2019) The analysis reveals that the low adoption rate of digital payments can be attributed to supply-side adoption costs, which include the acquisition of a bank account, internet access, a suitable device, profits to cover usage fees, and technological literacy.

Gagandeep Singh (2019) According to the study's conclusion, e-wallets are plastic money's new face, proving that the use of technology for digital payments has enhanced the banking industry's performance and allowed for the goal of a cashless society. The majority of respondents use e-wallets for a variety of recharges and account transfers because they think it's the most convenient, quick, and secure way to transfer money. It also saves time and is an easy way to conduct transactions.

Seethamraju, Ravi & Diatha, Krishna Sundar (2019) This study looks at how small retailers' expressed ambiguity and inherent contradictions about the advantages of transparency, their sense of control, the implications of taxes, and their mistrust of external regulations in the digital context point to their incapacity to understand the changes and resources needed to meet the challenges.

Dr. Ranjith P.V., Dr. Swati Kulkarni, Dr. Aparna J Varma (2021) analyze that there is still apprehension towards digital payments due to security concerns.

Vishal Mishra, Isabelle Walsh & Ankur Srivastava (2021) This research highlights the important connection that unorganized retailers make between businesses and bottom-of-the-pyramid consumers and between the state and its marginalized citizens, confirming that these retailers are crucial allies in economic growth and technology-driven inclusion.

Sunil S (2022) Based on their proficiency in technology and customer-focused innovation, non-banking financial institutions have entered the Indian market and broadened the array of payment services accessible to consumers. This study attempts to analyze the trends of various digital wholesale payments in the Indian economy.

Mint (2022): E-payments make a comeback on wholesale transactions. June 2022 Rahul Dobhal (2023): UPI in the Indian Wholesale Market: Medium, May 2023 Rekha Gupta Menon (2023): India's market for digital payments extends beyond its boundaries. The Banker, August 2023

R.Khatwani, M. Mishra, M.Bedekar (2023) The study concludes in empirical research utilizing the above-mentioned defining trends to thoroughly assess and measure the expansion and adoption of digital payments across diverse regions of India.

OBJECTIVE OF THE STUDY

The paper is designed keeping in mind the following objectives: Firstly, the adoption of digital payment methods in the wholesale sector including technological infrastructure, regulatory environment, and cultural considerations. Secondly, it focuses on the potential challenges that arise during the process of using and receiving digital modes of payments from different entities. Lastly, it focuses on exploring opportunities and understanding the future of B2B's digital payments system in India.

SCOPE OF STUDY

The rapid advancement in technology worldwide and the government's push towards a cashless economy, have made the wholesale market of India shift majorly towards the digitization of payment systems. The South Mumbai region of Maharashtra state has been selected as the geographical area of research. It consists of wholesalers who deal with different types of commodities. 100 wholesalers from the South Mumbai region were selected for this survey. The wholesalers were required to fill out a questionnaire related to digital payments in B2B. Out of the 100 wholesalers, 60 wholesalers are taken as the sample size and the responses have been recorded from the same. The remaining wholesalers are not included in the sample size as they refused to become a part of this survey.

RESEARCH METHODOLOGY

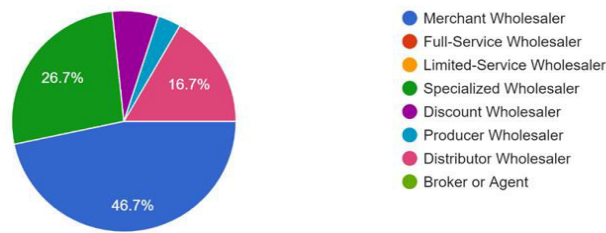
Google Forms was the mode of primary data collection for this study. The wholesalers were been asked to fill out an electronic questionnaire and their responses were recorded. The secondary data was collected through different kinds of news articles, RBI Bulletin, existing research papers from different internet search engines like Google Chrome & Safari Browser, and AI tools like R Discovery & Chat GPT 3.5. Research Journals and topic-related research books were also referred to for secondary data collection. The tools that have been used in the analysis of the study consist of, Line Graphs & Bar Graphs, Pie Charts, and tables.

RESULTS AND FINDINGS

From the data collected through the Google questionnaire, it can be noted that there are different types of wholesalers, present in the South Mumbai region. It has 46.7% merchant wholesalers, 26.7% Specialized wholesalers, and 16.7% distributor wholesalers. These are prominently located in the marketplaces of South Mumbai which are mostly established between 1990 to 2010. The wholesalers have mostly preferred using EFTs, UPI, and Internet Banking as their mode of digital payment for their businesses, as they are faster in clearance, easy and convenient to use, and transaction cost is comparatively low, which is quite advantageous to the wholesalers. More than half a percent of wholesalers use and pay their expenses via digital payments.

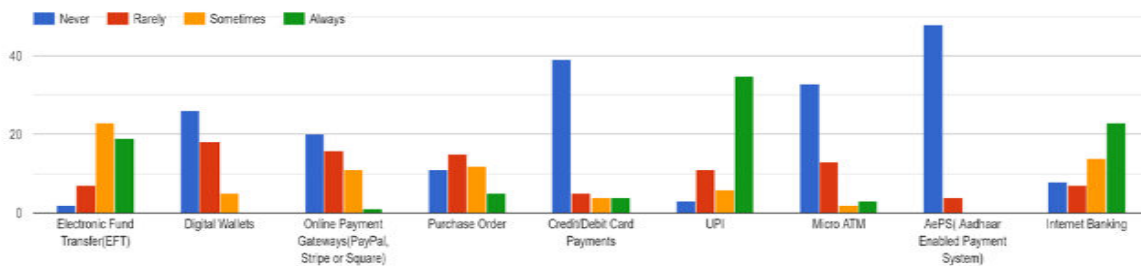
Pie Chart 1.0: Types of Wholesalers

Q2. What type of a Wholesaler are you?
60 responses



Other modes of digital payments like Credit or Debit cards, digital wallets, online payment gateways, Micro ATMs, and AePS are not preferred by wholesalers regularly as they do not greatly benefit the wholesalers. The commission that banks charge the wholesaler businesses is quite high and therefore they avoid using or accepting these e-payment methods

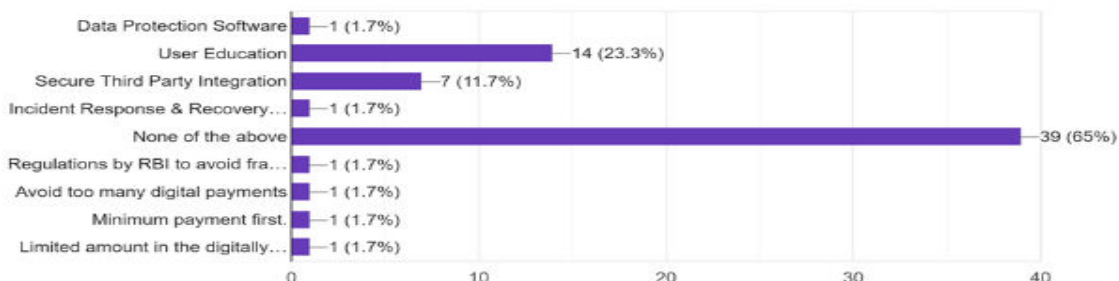
Q6. Which mode of digital payment is used & accepted by your business? Kindly rate the following modes of digital payment.



Bar Graph 1.0: Methods of Digital Payments

From the study, it can also be seen that 83.3% of wholesalers agree that, digital payments involve a risk of cyber fraud. To stay away from cyber frauds few wholesalers have adopted necessary security measures like user education and installing data protection software. Other than these measures, some more measures followed by the wholesalers are keeping a minimum balance in the bank accounts that involve digital payments and avoiding any kind of bulk e-payments.

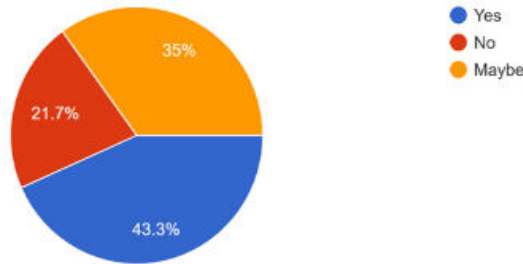
Q9. What kind of cybersecurity measures have you adopted in your business in order to avoid such frauds?
60 responses



Bar Graph 1.1: Cybersecurity Measures

Making India a cashless economy is the government’s goal. The future of wholesalers lies in the hands of the present wholesalers. As per the survey, 80% of the wholesalers’ suppliers and their buyers are accepting digital mode of payment. B2B Payments in India can become completely cashless is what is believed by 43.3% of wholesalers of South Mumbai. Furthermore, the study also focuses on the awareness of the wholesalers, about any new or recently launched digital mode of payment, to which, 93.3% of wholesalers were unaware and only 6.7% could mention e payments like E- rupee, Smart cards, and contactless payment system.

Q11. 'B2B in India will become completely cashless in the future'. Do you agree?
60 responses



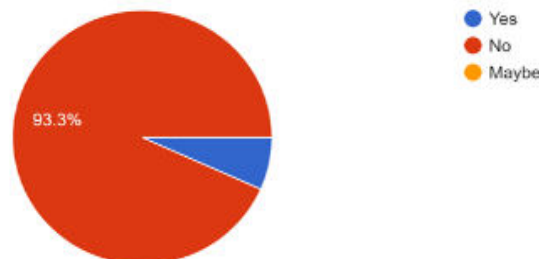
Pie Chart 1.1: Future of Digital Payments in Wholesale Market

CONCLUSION

The objectives of understanding the adoption of digital payment methods in the wholesale sector include technological infrastructure, regulatory environment, and cultural considerations. Secondly, the focus is on the potential challenges that arise during the process of using and receiving digital modes of payments from different entities. Lastly, the focus on exploring opportunities and understanding the future of B2B’s digital payments system in India was fulfilled. The filling out the Google questionnaire, the wholesalers contributed greatly to the study of research in the wholesale market of India. The suggestions given by the wholesalers regarding the adoption of digital payments are ways to improve the payment system and build a digital economy that makes our nation a superpower. The future of digital payments in the wholesale market is promising, with continued technological innovation driving further adoption and evolution.

Pie Chart 1.2: Awareness of digital users.

Q13. Are you aware of any upcoming or recently launched digital mode of payment in India?
60 responses



Trends such as contactless payments, embedded finance, and IoT-enabled transactions will shape the landscape, offering wholesalers new opportunities for growth and competitiveness. In summary, digital payments are reshaping the wholesale market, offering wholesalers unprecedented opportunities for efficiency, security, and innovation. By embracing technology, navigating regulatory complexities, and prioritizing cybersecurity, wholesalers can position themselves for success in an increasingly digitalized financial ecosystem. Digital payments are revolutionizing the wholesale market, enabling faster, more secure, and efficient transactions. Innovations such as mobile payments, blockchain, and AI-powered platforms are reshaping the way wholesalers conduct business. They offer wholesalers significant advantages in terms of cost savings, operational efficiency, and liquidity management. Automated processes, streamlined reconciliation, and reduced reliance on cash contribute to enhanced financial performance.

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STUDY ON SOCIAL CUSTOMER RELATIONSHIP MANAGEMENT (SCRM) & ITS IMPACT ON BUSINESS WITH REFERENCE TO THANE CITY

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ABSTRACT

Social Customer Relationship Management (sCRM) refers to the making and managing business relationship with customers with the help of social means of communication. In recent times the success of business relies on customers' valuable responses and feedback to create a niche in a competitive world. Therefore, according to recent development in marketing it is very important to develop, manage and maintain relationships with clients for longer duration. This research carries Primary data collection from a few businessmen in and around Thane city through Google forms and interviews. The Secondary data collection is through research articles, social media, newspapers, news channels, books, and magazines. The main aim of this paper is to find out the impact of social CRM on business which tries to reach customers through various outlets such as Facebook, Twitter, YouTube, Instagram etc. The conclusion of this paper highly emphasizes the positive impact of social CRM among businessmen in maintaining client relationships for future growth of business.

Keywords: social CRM, customer, business, social media outlets

CONCEPTUAL FRAMEWORK:**Social Customer Relationship Management**

In recent times the advantage of social media has increased drastically. The customer is attracted to use media via mobiles. Businessmen tries to get the feedback, reviews and responses through the use of social media. Various such outlets are available with the help of IT and software. The Marketing requires lots of efforts to reach audience and maintain interaction. In order to achieve such goals social media is used by the small firms, businessmen, corporates.

INTRODUCTION

Social customer relationship management is the marketing tactic adopted by the businessmen in order to enhance the contacts and interaction with existing customers. The customer retention is very important for those businesses who are new in the market. They try to get attention from customer. Proper feedback about the business, its products and services from customers are highly valued in this competitive world. Since growth and progress relies upon it. Traditional CRM comprises of text messages on mobiles and emails but social CRM provides various other means of communication such as Facebook, twitter, YouTube, Instagram, Websites. The success of the organization using social CRM depends upon the thorough interaction between clients and firms. Social media has always been the recent concept in every area due to its growing technologies. Its use in business firms can become more of advantageous rather than offending.

Social Customer Relationship Management channels:**FACEBOOK**

Facebook page is prepared to advertise the business and its products and services. Hospitality industry rules out in that according to this survey.

INSTAGRAM

Instagram page is widely used to attract a customer. Reels are prepared to show its products and services. Story sharing option helps firms to advertise and do the marketing. Businesses dealing with textile, fabrics, designer clothing advertise a lot through it. The number of followers gives a quiet good response to such businesses.

WEBSITE

Online shopping is not a new concept. Hence, the website is prepared to provide feedback and ask for rating from customers. This builds a good relation of a firm with clients. A company tries to focus on improving in case of fair reviews or comments.

TWITTER

Twitter is widely used to share thoughts. The customers share its views on this social page where one can read their comments of the product or service of any particular firm.

YOUTUBE

YouTube is used to promote, engage the customers through small videos. YouTube is again another media outlet where audience is largely reached and engaged. The content is advertised also globally.

Benefits of social CRM:

- Customer retention
- Customer involvement
- Getting feedback
- Personalized attention on views
- Reaching target audience
- Achieve a niche in competitive world
- Growth and progress
- Finding drawbacks of existing products or services
- New and trendy Marketing tool
- Economical marketing strategy
- Helps in decision making
- Creating brand awareness
- Reaching large number of viewers
- Market analysis

Traditional CRM and social CRM:

Traditional CRM comprises phone calls, text messages, E- mail messages to customers for after sale interaction and sales processes. Whereas social CRM consists of use of social media platforms to make relationships with customers. A proper team of experts are appointed by the large corporations to develop and sustain clients. Social CRM reaches a larger audience due to high social media demand among users.

OBJECTIVES OF THE STUDY:

1. To study social Customer Relationship Management concept.
2. To explore the segmentation of business firms using sCRM marketing.
3. To find out the impact of social Media Customer Relationship on businesses.

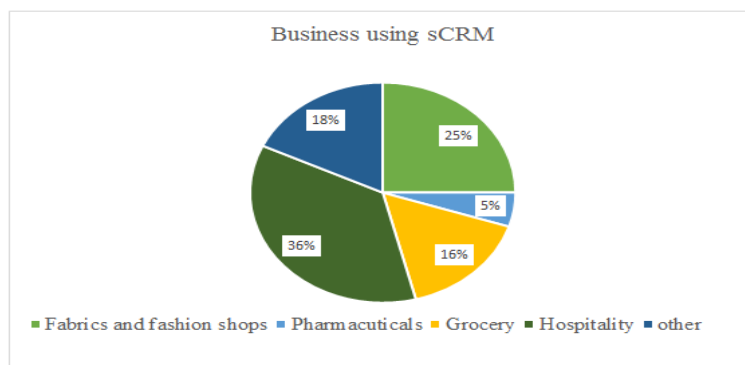
RESEARCH METHODOLOGY

The study comprises primary data collected through Google forms from a few businessmen using social CRM marketing. The respondents are from Thane city including new outlets opened. The data collected from respondents is represented in the form of figures.

Secondary data is collected from research articles, books, magazines, newspapers, news channels etc.

DISCUSSION

Segmentation of business areas using social CRM marketing

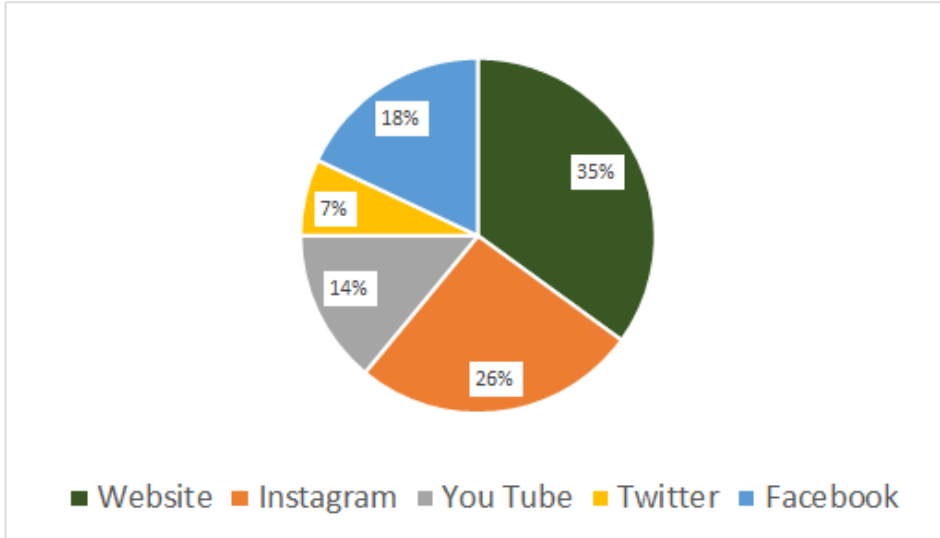


Source: Primary data collection using Google forms

Interpretation

As per the survey conducted, 25% of the firms belongs to Fabrics and fashion outlets, 18% are from pharmaceutical area, 16% from Grocery and general stores, 36% from Hospitality region, 5% are from other areas such as new establishments, stock market, educational institutions.

Characterization of social media channels

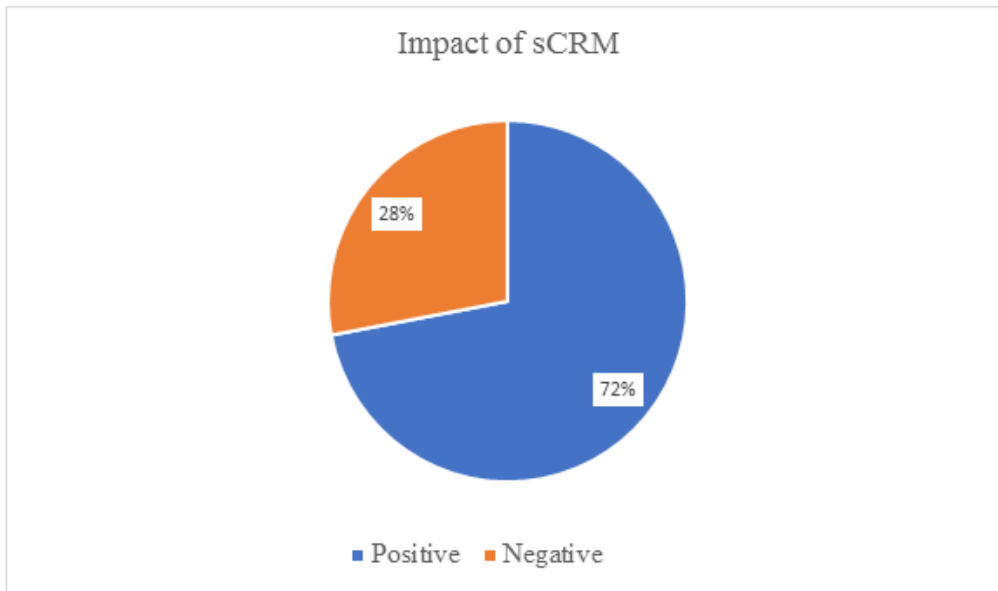


Source: Primary data collection using Google forms

Interpretation:

In using social CRM channel, Website channel of Marketing tops it, since firms initially prepares websites for online kind of services. Then 26% of firms uses Instagram, 14% You Tube, 18% Facebook, and 7% of businesses uses Twitter.

Impact of sCRM on business



Source: Primary data collection using Google forms

Interpretation

Out of the respondents surveyed, 72% of firms felt there is a positive impact of using social media customer relationship management, whereas 28% of firms does not react positively upon sCRM.

LIMITATIONS

The study is limited to those respondents only who have systematic knowledge, awareness and application of social CRM in their business as a marketing analytics tool.

CONCLUSION

The conclusion drawn from this study is the positive impact of social CRM on businesses due to its diverse benefits. Customers are the ruling party for every commercial, hence knowing them, retaining them and proper interaction is an important job of every firm. Social media is an important instrument for marketing purposes, hence must be used objectively.

SUGGESTIONS

1. Provide Quick remedies and solutions to the problems involved in products and services.
2. Study the customer wants and needs for future growth and success of the organization.
3. Create awareness through workshops and seminars before using social media as a marketing strategy.
4. Outline the selling and after sales services clearly in social media outlets and equip with proper personnel to solve any complaints arising.

FUTURE STUDY

This study is restricted to business using social Customer Relationship Management as an analytical marketing tool. The researchers can further explore the impact of social CRM on customers. The customer's experience about the use of social media in Relationship Management should also be investigated.

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GREEN BANKING: DRIVING ENVIRONMENTAL SUSTAINABILITY

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ABSTRACT

Green banking integrates environmental principles into financial practices, fostering sustainability and resilience. It mobilizes resources for environmentally beneficial projects, mitigates risks, and enhances transparency. By prioritizing investments in renewable energy and sustainable infrastructure, green banks contribute to a low-carbon economy and climate resilience. They promote innovation and collaboration, developing green financial products and fostering partnerships. Through transparency and accountability, they build trust among stakeholders, empowering informed decisions aligned with environmental values. Case studies highlight the effectiveness of green banking initiatives, such as Triodos Bank's sustainable finance portfolio and YES Bank's sustainable infrastructure projects in India. Suggestions for improvement include enhancing collaboration, expanding green loan products, integrating ESG criteria, and investing in capacity building. Transparency, innovation, and stakeholder engagement are essential for the continued success of green banking in driving positive environmental outcomes and sustainable development.

Keywords: Green Banking, Sustainability, Environment, Case studies

INTRODUCTION

Green banking, also known as sustainable banking or ethical banking, has emerged as a proactive approach within the financial sector to address environmental challenges and promote sustainability (Suresh and Pandey, 2015). It encompasses a range of strategies and practices aimed at integrating environmental considerations into banking operations, investment decisions, and corporate governance frameworks. At its core, green banking seeks to align financial activities with principles of environmental responsibility, social equity, and economic viability, thereby contributing to the transition towards a more sustainable and resilient global economy. Imagine a bank giving out loans for solar panels or wind farms instead of funding fossil fuel projects. That's green banking in action.

The idea behind green banking is pretty simple: it's about using money in a way that's good for the environment. This means banks consider things like reducing pollution, saving energy, and protecting natural habitats when they make decisions about where to invest or lend money.

The significance of green banking in promoting environmental sustainability within the financial sector is multifaceted and far-reaching. Firstly, green banking plays a pivotal role in mobilizing financial resources towards environmentally beneficial projects and initiatives. By prioritizing investments in renewable energy, clean technologies, sustainable infrastructure, and climate adaptation measures, green banks contribute to the development of a low-carbon economy and the mitigation of climate change impacts.

Moreover, green banking helps to mitigate environmental risks and enhance resilience within the financial sector. By incorporating environmental risk assessments, sustainability criteria, and climate-related disclosures into lending and investment decisions, green banks can better identify and manage risks associated with environmental degradation, resource scarcity, and regulatory changes (Mir and Bhat, 2022). This proactive approach not only safeguards financial stability but also fosters long-term value creation for stakeholders.

Furthermore, green banking promotes transparency, accountability, and trust in financial markets. Through sustainability reporting, environmental performance metrics, and stakeholder engagement mechanisms, green banks demonstrate their commitment to responsible business conduct and ethical stewardship of natural resources. This transparency not only enhances the reputation and credibility of green banks but also empowers consumers, investors, and regulators to make informed decisions that align with their environmental values and objectives.

Additionally, green banking serves as a catalyst for innovation and collaboration within the financial sector. By incentivizing the development of green financial products, green bonds, impact investments, and sustainable banking solutions, green banks stimulate innovation and entrepreneurship in environmental markets. This fosters a culture of sustainability-driven entrepreneurship and collective action towards achieving global sustainability goals.

In summary, green banking represents a paradigm shift in the way financial institutions engage with environmental issues and societal challenges. By integrating environmental considerations into their core

business practices and decision-making processes, green banks have the potential to drive positive environmental outcomes, foster sustainable development, and create shared value for society. As the urgency of addressing environmental challenges intensifies, the role of green banking in promoting environmental sustainability within the financial sector becomes increasingly indispensable.

REVIEW OF LITERATURE

Green banking has gained increasing attention in recent years as financial institutions seek to align their operations with environmental sustainability principles. The following literature review provides an overview of key studies and insights related to green banking practices, motivations, challenges, and outcomes:

The World Bank's handbook (2016) on green banking provides a comprehensive overview of environmental considerations in the financial sector. It outlines various green banking practices, including green lending, sustainable investment, and environmental risk management. The handbook also offers practical guidance and case studies to help financial institutions integrate environmental criteria into their decision-making processes and promote sustainable development. By addressing the challenges and opportunities of green banking, the handbook serves as a valuable resource for policymakers, regulators, and practitioners seeking to advance environmental sustainability in the banking industry.

Luetkenhorst, 2017 examines the role of green finance in mobilizing institutional investment for sustainable energy projects. It identifies various channels and mechanisms through which financial institutions can support renewable energy development, energy efficiency initiatives, and climate mitigation efforts. The publication also assesses policy measures and market instruments aimed at incentivizing green investments and overcoming barriers to capital flows in the green finance sector. By highlighting opportunities for scaling up green finance initiatives, the OECD publication contributes to the global dialogue on financing the transition to a low-carbon economy.

The report by PricewaterhouseCoopers (PwC) (2018) offers an in-depth analysis of green banking practices and their implications for the financial sector. It examines the motivations driving banks to adopt green banking initiatives, such as regulatory compliance, reputation management, and market differentiation. The report also highlights challenges faced by banks in implementing green banking practices, including financial constraints, regulatory uncertainties, and organizational barriers. Moreover, it discusses the potential impact of green banking on environmental sustainability, corporate reputation, and financial performance, providing valuable insights for stakeholders interested in understanding the dynamics of sustainable finance.

The European Banking Federation's guide (2019) on green banking practices offers practical insights and recommendations for financial institutions interested in adopting environmentally sustainable finance principles. It outlines key components of green banking strategies, including environmental risk assessment, green product development, and stakeholder engagement. The guide also discusses regulatory frameworks and industry standards governing green banking activities, helping banks navigate compliance requirements and integrate sustainability considerations into their operations. By providing a roadmap for implementing green banking practices, the guide supports banks in aligning their business strategies with environmental sustainability goals and contributing to the transition towards a greener economy.

Armstrong (2020) explores the potential of green banking as a catalyst for environmental sustainability and responsible finance. Drawing on case studies and interviews with industry experts, the book examines best practices and emerging trends in green banking, from green lending and investment to climate risk management and sustainability reporting. It also discusses the role of regulatory frameworks, market incentives, and consumer preferences in driving the adoption of green banking practices. By providing a comprehensive overview of the green banking landscape, Armstrong's book offers valuable insights for academics, practitioners, and policymakers interested in promoting sustainable finance and building a more resilient financial system.

EXPLORING GREEN BANKING CASE STUDIES FROM AROUND THE GLOBE AND INDIA

Triodos Bank: Leading the Way in Sustainable Finance

Triodos Bank is a pioneer in green banking, with a strong focus on financing sustainable projects and initiatives. The bank's lending portfolio includes investments in renewable energy, organic agriculture, sustainable housing, and social enterprises. Triodos Bank's commitment to environmental sustainability is reflected in its transparent reporting practices and rigorous sustainability criteria for project financing. Through its innovative approach to green banking, Triodos Bank has demonstrated the feasibility and impact of sustainable finance in driving positive environmental outcomes while generating financial returns for investors.

Bank of America: Environmental Business Initiative

Bank of America's Environmental Business Initiative is a comprehensive program aimed at integrating environmental considerations into the bank's business operations and investment decisions. The initiative includes initiatives such as green lending, sustainable investment funds, and environmental risk management strategies. Bank of America's commitment to green banking is evidenced by its leadership in financing renewable energy projects, supporting sustainable infrastructure development, and promoting climate resilience initiatives. By leveraging its financial resources and expertise, Bank of America has become a key player in advancing environmental sustainability within the financial sector.

Caisse d'Epargne: Sustainable Finance Solutions

Caisse d'Epargne, a leading French bank, has developed a range of sustainable finance solutions to address environmental challenges and promote responsible banking practices. The bank offers green loans, sustainable investment funds, and environmental advisory services to support clients in transitioning to low-carbon and resource-efficient business models. Caisse d'Epargne's commitment to sustainability is reflected in its partnerships with environmental organizations, participation in industry initiatives, and integration of environmental criteria into lending and investment decisions. Through its innovative approach to green banking, Caisse d'Epargne has positioned itself as a trusted partner for sustainable finance solutions.

Standard Chartered: Sustainable Finance Commitment

Standard Chartered, a multinational bank headquartered in London, has made a significant commitment to sustainable finance through its Sustainable Finance Framework. The framework outlines the bank's approach to integrating environmental, social, and governance (ESG) considerations into its business strategy and operations. Standard Chartered's green banking initiatives include financing renewable energy projects, supporting sustainable infrastructure development, and promoting responsible supply chain practices. The bank's focus on sustainable finance is driven by its recognition of the importance of environmental sustainability in addressing global challenges and contributing to long-term economic growth.

NAB: Climate Change Action Plan

National Australia Bank (NAB) has developed a comprehensive Climate Change Action Plan to address environmental risks and opportunities in its business operations. The plan includes commitments to reduce the bank's carbon footprint, increase investments in renewable energy, and support clients in transitioning to low-carbon business models. NAB's green banking initiatives are guided by its sustainability principles and stakeholder engagement processes, which prioritize environmental stewardship and responsible finance. Through its Climate Change Action Plan, NAB aims to demonstrate leadership in sustainable banking practices and contribute to positive environmental outcomes.

ICICI Bank: Sustainable Finance Practices

ICICI Bank, one of India's largest private sector banks, has adopted various sustainable finance practices to promote environmental sustainability. The bank offers green loans for renewable energy projects, energy-efficient infrastructure, and sustainable agriculture initiatives. ICICI Bank also provides advisory services to clients on environmental risk management and sustainable investment opportunities. Through its green banking initiatives, ICICI Bank aims to support India's transition to a low-carbon economy while contributing to social and economic development.

State Bank of India: Renewable Energy Financing

The State Bank of India (SBI), the country's largest public sector bank, has played a significant role in financing renewable energy projects across India. SBI offers specialized loan products for solar power, wind energy, biomass, and other renewable energy projects, providing financial support to developers and investors in the renewable energy sector. The bank's commitment to renewable energy financing aligns with India's national goals to increase renewable energy capacity and reduce carbon emissions.

YES Bank: Sustainable Infrastructure Development

YES Bank, a leading private sector bank in India, has prioritized sustainable infrastructure development as part of its green banking strategy. The bank finances green buildings, sustainable transportation projects, and climate-resilient infrastructure initiatives, promoting environmentally friendly and resource-efficient development practices. YES Bank also offers advisory services and financial incentives to clients for implementing sustainability measures in their projects. By supporting sustainable infrastructure development, YES Bank contributes to India's efforts to build a greener and more resilient economy.

Axis Bank: Environmental Risk Management

Axis Bank, another major private sector bank in India, has implemented robust environmental risk management practices to assess and mitigate environmental risks associated with its lending and investment activities. The bank conducts environmental due diligence for project financing, evaluates environmental performance metrics of clients, and monitors compliance with environmental regulations and standards. Axis Bank's proactive approach to environmental risk management helps safeguard against potential environmental liabilities and ensures responsible banking practices.

IDBI Bank: Green Bonds Issuance

IDBI Bank, a leading development finance institution in India, has issued green bonds to raise funds for financing environmentally sustainable projects. The bank's green bonds comply with international green bond standards and are used to finance renewable energy, energy efficiency, and climate mitigation projects in India. IDBI Bank's green bond issuance demonstrates its commitment to mobilizing capital for green investments and supporting India's transition to a low-carbon economy.

ENHANCING GREEN BANKING IN INDIA: PROPOSED IMPROVEMENTS**Enhanced Collaboration and Partnerships**

Banks can strengthen collaboration and partnerships with government agencies, industry associations, non-profit organizations, and international development partners to leverage expertise, resources, and networks for scaling up green banking initiatives. By fostering multi-stakeholder partnerships, banks can address common challenges, share best practices, and catalyze innovation in sustainable finance.

Expansion of Green Loan Products

Banks can expand their portfolio of green loan products to include financing options for a wider range of sustainable projects, such as energy-efficient buildings, green transportation infrastructure, sustainable agriculture, and circular economy initiatives. By offering diverse green loan products tailored to the needs of different sectors and stakeholders, banks can broaden their impact and stimulate investments in priority areas for environmental sustainability.

Integration of Environmental, Social, and Governance (ESG) Criteria

Banks can integrate environmental, social, and governance (ESG) criteria into their lending and investment decisions to ensure responsible banking practices and promote sustainable development outcomes. By incorporating ESG considerations into credit risk assessment, project evaluation, and portfolio management processes, banks can mitigate environmental and social risks, enhance long-term value creation, and align with global sustainability standards.

Capacity Building and Awareness Raising

Banks can invest in capacity building initiatives and awareness-raising campaigns to educate employees, clients, investors, and the public about the importance of green banking and the benefits of sustainable finance. By providing training programs, workshops, and informational resources on green banking practices, banks can empower stakeholders to make informed decisions and adopt environmentally friendly behaviors in their financial activities.

Transparency and Reporting

Banks can enhance transparency and reporting mechanisms to disclose information about their green banking activities, environmental performance, and sustainability impacts. By publishing comprehensive sustainability reports, green finance portfolios, and impact assessments, banks can demonstrate their commitment to accountability, stakeholder engagement, and continuous improvement in environmental and social performance. Transparent reporting also helps build trust with customers, investors, regulators, and other stakeholders, fostering greater confidence in green banking initiatives.

Innovation in Financial Products and Services

Banks can drive innovation in financial products and services to meet evolving market demands and address emerging sustainability challenges. By leveraging financial technology (fintech), blockchain, artificial intelligence (AI), and other digital innovations, banks can develop innovative solutions for green lending, sustainable investment, climate risk management, and environmental monitoring. Innovative financial products and services can unlock new opportunities for sustainable finance and support India's transition to a low-carbon, resilient economy.

CONCLUSION

In conclusion, the exploration of green banking practices, both globally and within the context of India, underscores its pivotal role in fostering environmental sustainability within the financial sector. Green banking initiatives exemplify a proactive approach to aligning financial activities with principles of environmental responsibility, social equity, and economic viability. By prioritizing investments in renewable energy, sustainable infrastructure, and climate adaptation measures, green banks not only mobilize financial resources towards environmentally beneficial projects but also mitigate environmental risks and enhance resilience within the financial sector. Moreover, through transparency, accountability, and innovation, green banking promotes trust, collaboration, and stakeholder engagement, driving positive environmental outcomes while creating shared value for society. Moving forward, enhancing collaboration, expanding green loan products, integrating ESG criteria, investing in capacity building, promoting transparency, and fostering innovation are proposed improvements that can further amplify the impact of green banking in India, contributing to a more sustainable and resilient economy for future generations.

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A STUDY ON THE EFFECTIVENESS OF CORPORATE SOCIAL RESPONSIBILITY (CSR) IN ENHANCING BRAND LOYALTY: A LITERATURE REVIEW

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ABSTRACT

In today's socially conscious marketplace, Corporate Social Responsibility (CSR) has rapidly evolved from a philanthropic endeavor to a strategic imperative for fostering brand loyalty. This comprehensive literature review systematically examines the intricate and multifaceted relationship between CSR initiatives and brand loyalty by synthesizing insights across five distinct themes: historical perspectives, socio-economic implications, corporate reputation, measurement and evaluation, and sustainable practices.

Through a meticulous analysis of peer-reviewed studies published between 2007 and 2023, the review traces the historical evolution of CSR, illustrating how it has been shaped by broader social, economic, and institutional forces to meet changing stakeholder demands. It explores the nuanced socio-economic impacts of CSR, including its influence on firm performance, stakeholder engagement, and competitive advantage, with a particular emphasis on the mediating role of corporate reputation.

Furthermore, the review delves into the complex interplay between CSR, corporate associations, brand identification, and consumer behavior, highlighting the pivotal roles of affective commitment and satisfaction as mediators in fostering brand loyalty. Crucially, it evaluates the methodological approaches employed in existing studies, underscoring the importance of robust measurement techniques and the potential pitfalls associated with CSR communication and reporting across diverse cultural and institutional contexts.

Notably, the review sheds light on the growing significance of sustainable practices in CSR, examining how factors such as clean energy consumption, green financing, and green economic advancement contribute to environmental, social, and governance (ESG) performance, thereby influencing brand loyalty.

While acknowledging the potential of CSR to shape consumer perceptions, foster stakeholder trust, and align with societal values, the review underscores the need for strategic alignment of CSR initiatives with broader organizational goals. It identifies critical research gaps, including the long-term impact of CSR on brand loyalty, cross-cultural variations, the dynamics of SMEs, the integration of CSR with marketing strategies, and the application of advanced measurement methodologies.

Overall, this comprehensive review contributes to the ongoing discourse by synthesizing existing knowledge, identifying emerging trends, and providing recommendations for leveraging CSR as a powerful tool to cultivate long-lasting consumer relationships and drive sustainable brand loyalty in an increasingly conscious and discerning global marketplace.

Keywords: Corporate Social Responsibility (CSR), Brand Loyalty, Consumer Behavior, Stakeholder Engagement, Corporate Reputation, Sustainability Practices, Environmental, Social, and Governance (ESG), Socio-economic Implications, Measurement and Evaluation Methodologies, Cross-Cultural Variations, Marketing Strategy Integration, Small and Medium Enterprises (SMEs), Historical Perspectives of CSR, Green Financing, Consumer Perceptions

INTRODUCTION

Companies are realizing that simply offering great products or services is no longer enough to win over customers. Consumers are becoming increasingly savvy, and they want to support brands that align with their values and make a positive impact on society and the environment. Enter corporate social responsibility (CSR) – a concept that has rapidly evolved from a nice-to-have philanthropic effort to a strategic imperative for fostering long-lasting brand loyalty. (Chakraborty & Jha, 2019).

At its core, CSR is about companies taking responsibility for their actions and striving to contribute to sustainable economic development, environmental protection, and societal well-being. It's a holistic approach that goes beyond just making a profit, recognizing that businesses have a pivotal role to play in addressing the pressing challenges facing our world.

But here's the thing – the relationship between CSR and brand loyalty is far from straightforward. It's a complex, multifaceted dynamic influenced by a myriad of factors, ranging from historical perspectives and socio-economic implications to corporate reputation, measurement methodologies, and sustainable practices. And that's precisely what this literature review aims to unravel. (Moon, Lee, & Oh, 2015).

We'll kick things off by taking a trip down memory lane and exploring the historical evolution of CSR and its impact on brand loyalty over time. From there, we'll dive into the broader socio-economic ripple effects of CSR initiatives, examining how they shape stakeholder trust, community engagement, and ultimately, consumer loyalty. (Moura-Leite & Padgett, 2011).

Next up, we'll tackle the intricate relationship between corporate reputation, CSR, and brand loyalty. Because let's be real – in today's era of social media and instantaneous information, a company's public image can make or break its success, and CSR efforts play a crucial role in shaping that perception. But how do we even measure the effectiveness of CSR in enhancing brand loyalty? That's where our fourth theme comes in, as we critically analyze the various methodological approaches and evaluation techniques employed in existing studies. Because if we can't measure it, how can we improve it? (Wong, A. K. F., & Kim, S. (2023)

Finally, we'll zoom in on the role of sustainable practices in CSR and their potential influence on brand loyalty. As environmental concerns take center stage, companies that prioritize sustainability may just have a competitive edge in capturing consumer loyalty.

By synthesizing insights from these five distinct themes, we aim to contribute to the ongoing conversation about leveraging CSR as a strategic tool for fostering long-lasting consumer relationships and brand loyalty. Through a critical analysis of existing research, we'll identify gaps, highlight emerging trends, and provide recommendations for future exploration

RESEARCH OBJECTIVES

1. To systematically review the literature and identify predominant themes related to the effectiveness of Corporate Social Responsibility (CSR) initiatives in fostering brand loyalty.
2. To analyze the impact of CSR practices on consumer perceptions, stakeholder engagement, and overall organizational effectiveness, with a specific focus on enhancing brand loyalty.
3. To identify research gaps and potential areas for future investigation within the current literature on the relationship between CSR and brand loyalty.
4. To evaluate the alignment between CSR strategies and overarching business goals, assessing how well these strategies integrate with and support broader organizational objectives, such as building and maintaining brand loyalty.

RESEARCH METHODOLOGY

A systematic literature search was conducted across reputable academic databases, including Emerald Insights, SAGE Journals, and Wiley Online Library. The search strategy targeted peer-reviewed journal articles published between 2007 and 2023, utilizing keywords related to "corporate social responsibility," "CSR," "brand loyalty," and "consumer behaviour." A rigorous screening process was employed, involving the evaluation of titles, abstracts, and full texts against predefined inclusion criteria. The selected studies underwent a thematic analysis, categorizing findings into five themes: Historical Perspectives on CSR, Socio-economic Implications, Corporate Reputation, Measurement and Evaluation, and Sustainable Practices. Emphasis was placed on assessing the methodological rigor across diverse study designs and analytical approaches to ensure the robustness and reliability of the synthesized findings.

Theme 1-Historical perspectives on Corporate Social Responsibility: Examining the evolution of CSR and its impact on brand loyalty over time.

The evolution of corporate social responsibility (CSR) over the past century has been driven by shifting societal pressures and stakeholder demands. Research Paper 1 examines how economic and social events have altered the focus of organizations' social responsibility reporting, transitioning from internal to external stakeholders (Morf, Flesher, Hayek, Pane, & Hayek, 2013). Research Paper 2 traces the historical development of CSR, highlighting how it has adapted over time in response to industrial revolutions and global trends, requiring new business models and definitions (Munro, 2020). The institutional characteristics of the modern corporation itself, as described in Research Paper 3, created both opportunities and challenges for corporations to gain social legitimacy, leading to the emergence of CSR concepts like public relations and public welfare (Hoffman, 2007). Synthesizing the conceptual evolution of CSR research over the past six decades, Research Paper 4 reveals how the focus has shifted from businesses' responsibilities to society in the 1950s to integrating CSR with corporate

strategy in the 2000s (Moura-Leite & Padgett, 2011). Finally, Research Paper 5 employs a scientometric approach to map the interdisciplinary nature of CSR research, tracing the emergence, decline, and persistence of key topics over time (Ferramosca & Verona, 2020). Collectively, these studies illustrate how CSR has been shaped by broader social, economic, and institutional forces, evolving to meet the changing demands and expectations placed on corporations. Organizations must remain attuned to these dynamics to develop socially responsible initiatives and effectively communicate with diverse stakeholder groups (Chakraborty & Jha, 2019).

Theme 2-Socio-economic implications of Corporate Social Responsibility: Exploring the social and economic effects of CSR on stakeholders, and communities.

The research papers collectively explore the nuanced relationship between corporate social responsibility (CSR) and firm performance outcomes like brand value, economic value, cost of capital, and competitive advantage. A key theme is how this relationship is contingent on contextual factors such as the country's corporate governance system (shareholder vs. stakeholder-oriented), industry, brand identity, and socio-cultural influences. In shareholder-oriented systems, CSR is generally viewed positively by investors to maximize long-term firm value and manage stakeholder risks, leading to lower equity and debt financing costs (Pope & Kim, 2022). Conversely, in stakeholder-oriented systems, CSR may be perceived as prioritizing stakeholders over shareholders, raising agency concerns and a higher cost of equity financing, though it can reduce debt costs for distressed firms by garnering stakeholder support (Abugre & Anlesinya, 2020).

The papers also highlight the mediating role of corporate reputation, especially in emerging economies, and socio-cultural differences in how CSR is understood and practiced across contexts like industrialized versus transitional societies (Desender, López-Puertas, Pattitoni, & Petracci, 2020; Bögel, Lovrić, Bekmeier-Fuerhahn, & Sippel, 2018). Integrating CSR into strategic management is proposed to require a social management philosophy, incorporating CSR into value chains, fostering bottom-up innovation, and using integrated tools and methods (Vitolla, Rubino, & Garzoni, 2017). The studies employ diverse methodologies, including surveys, regressions, structural equation modeling, and comparative case studies. Overall, they argue for a nuanced, corporate governance system-dependent framework to understand the drivers and consequences of CSR strategies across different institutional environments (Uduji, Okolo-Obasi, Nnabuko, Ugwuonah, & Onwumere, 2023; Hussain, 1999)."

Theme 3 - Corporate Reputation: Exploring the relationship between corporate reputation, CSR, and brand loyalty.

These studies collectively examine the influence of corporate social responsibility (CSR) and corporate associations (CA) on consumer behavior, including brand identification, affective commitment, satisfaction, and ultimately, brand loyalty. The findings suggest that perceived CSR and CA can positively impact brand identification, with CSR having a stronger influence than CA in generating brand identification due to increased competition and reduced differentiation based solely on product or service quality (Moon, Lee, & Oh, 2015).

Brand identification, in turn, influences affective commitment and satisfaction, which act as mediators in fostering brand loyalty. The studies highlight two potential pathways through which brand identification can lead to brand loyalty: 1) positive affective commitment, exhibited through purchasing behavior; and 2) customer satisfaction derived from identifying with the brand (Fatma, Khan, & Rahman, 2016).

Methodologically, the studies employed techniques such as confirmatory factor analysis to validate measurement models and structural equation modeling to test research hypotheses and examine the proposed causal relationships among variables (Shankar & Yadav, 2021).

While some limitations are mentioned, such as considering the dual (cognitive and affective) dimensions of perception and satisfaction, the studies collectively emphasize the importance of CSR, CA, and brand identification in shaping consumer behavior and loyalty. They underscore the complex interplay between these factors and the mediating roles of affective commitment and satisfaction in the process of transforming corporate associations into brand loyalty (Safeer & Liu, 2023; Tiep Le, Ngo, & Aureliano-Silva, 2023; Bianchi, Bruno, & Sarabia-Sanchez, 2019).

Theme 4 - Measurement and Evaluation: Evaluating the methodologies used for measuring the effectiveness of CSR in enhancing brand loyalty

The four research papers provide valuable insights into the complexities of measuring and evaluating the effectiveness of corporate social responsibility (CSR) initiatives in enhancing brand loyalty. They highlight the nuances and potential pitfalls associated with CSR communication and reporting, particularly in the context of supply chains and cross-cultural comparisons.

Research Paper 1 challenges the conventional wisdom that pressuring small and medium-sized enterprise (SME) suppliers to make their CSR efforts more explicit is always beneficial. It introduces a conceptual framework that highlights three dilemmas faced by SMEs: authenticity commercialization, value control, and identity disruption. This framework exposes the potential "dark side" of increased CSR reporting within supply chains, as it may compromise the authenticity of SMEs' CSR efforts, undermine their control over their values, and disrupt their organizational identity. This paper raises important questions about the unintended consequences of mandating CSR reporting and the need for a more nuanced approach that considers the unique challenges faced by SMEs. (Wong, A. K. F., & Kim, S. (2023))

Research Paper 2 provides a comparative analysis of CSR adoption and its impact on firm performance between South Asian and Western food companies. Interestingly, it finds that while Western companies score higher on CSR, there is a weaker link between CSR and firm performance across both regions. This counterintuitive finding is attributed to lower CSR adoption by South Asian firms due to a perceived "greedy nature" and a need for government incentives to promote CSR. This paper highlights the importance of considering cultural and institutional factors when evaluating the effectiveness of CSR initiatives and their impact on firm performance (Pons, A., Rius, J., Vintró, C., & Lopez, S. (2023))

Research Paper 3 takes a critical perspective on the "CSR institution," arguing that it is legitimized through narratives that "decongest" the underlying concept of CSR, shielding it from calls for alternative arrangements. The paper identifies three deep-set taboos that inhibit substantial change in business practices: the primacy of economic goals, the sanctity of managerial prerogative, and the desirability of market-based solutions. This paper challenges the notion that CSR is a panacea and calls for a more critical examination of the underlying assumptions and power structures that shape the discourse around CSR. (Feix, A., & Philippe, D. (2020)).

Finally, Research Paper 4 develops a scale to assess the perceived credibility of CSR reports, a key CSR communication tool. The scale is grounded in Habermas's ideal speech situation and demonstrates strong psychometric properties. This paper provides a valuable methodological contribution to the field of CSR research by offering a reliable and valid measure of CSR report credibility, which is a crucial factor in enhancing brand loyalty and stakeholder trust. (Lee, S., Yeon, J., & Song, H. J. (2023)).

Theme 5- Sustainable Practices: Investigating the role of sustainable practices in CSR and their influence on brand loyalty

The study examining the impact of clean energy consumption, green bonds, and green economic advancement on the environmental, social, and governance (ESG) practices of the seven sectors of the Association of Southeast Asian Nations (ASEAN) economies provides valuable insights into the role of sustainable practices in corporate social responsibility (CSR) and their influence on brand loyalty.

One of the key findings of the study is that the main determinants of ESG practices are green economic advancement, clean energy, and green financing. These factors positively and significantly contribute to the ASEAN economies' progress towards the Sustainable Development Goals (SDGs). (Kaave, P. (2023)). This finding underscores the importance of sustainable business practices, particularly in the areas of green economic development, renewable energy adoption, and green financing mechanisms. (Baah, C., Amponsah, K. T., Issau, K., Ofori, D., Acquah, I. S. K., & Agyeman, D. O. (2021)).

Notably, the study reveals that the relationships between the explanatory variables (green economy, clean energy, and green financing) and the outcome variables (ESG practices) remain consistent even after controlling for other factors like climate regulatory quality, foreign direct investment (FDI), and gross domestic product (GDP). (Phan, T. C. (2024)) This robustness of the findings suggests that the observed effects of sustainable practices on ESG practices are not merely artifacts of other economic or regulatory factors, but rather reflect the genuine impact of these practices on corporate sustainability performance. (Baah, C., Amponsah, K. T., Issau, K., Ofori, D., Acquah, I. S. K., & Agyeman, D. O. (2021)).

The study has important implications for various stakeholders, including environmental activists, governments, and businesses operating in the ASEAN region. For environmental activists and non-governmental organizations (NGOs), the findings provide empirical evidence to support their advocacy efforts and campaigns for more sustainable business practices. They can leverage these findings to exert pressure on corporations to adopt cleaner energy sources, invest in green technologies, and promote a greener economy. (Saloranta, J., & Hurmerinta-Haanpää, A (2022))

For governments in the ASEAN region, the study highlights the importance of developing appropriate policies and regulatory frameworks to incentivize and facilitate the adoption of sustainable practices by businesses. This could include providing tax incentives for clean energy investments, developing green bond markets, and implementing carbon pricing mechanisms to promote a shift towards a more sustainable economic model. (Phan, T. C. (2024))

For businesses operating in the ASEAN region, the study underscores the potential benefits of embracing sustainable practices in terms of enhancing their ESG performance and contributing to the achievement of the SDGs. By aligning their operations with sustainable practices, such as increasing clean energy consumption, investing in green bonds, and promoting a green economy, businesses can not only improve their environmental and social impact but also potentially enhance their brand loyalty and reputation among consumers and stakeholders who value sustainability. (Saloranta, J., & Hurmerinta-Haanpää, A. (2022))

Gap Analysis

The research paper on the impact of Corporate Social Responsibility (CSR) initiatives on brand loyalty in the ASEAN region could be strengthened by addressing several critical gaps. Firstly, it is essential to explore the long-term impact of CSR efforts on brand loyalty over extended periods. Understanding the durability and sustained effectiveness of such strategies can provide valuable insights into their true potential for fostering enduring brand loyalty among consumers. Additionally, the research could benefit from a cross-cultural perspective, examining how the relationship between CSR, brand loyalty, and consumer behaviour varies across diverse global contexts. This would offer a more comprehensive understanding of the nuances and complexities involved in leveraging CSR for building brand loyalty in different cultural settings.

Moreover, the research could delve deeper into the specific challenges and opportunities faced by Small and Medium-sized Enterprises (SMEs) in implementing CSR practices and how these efforts impact brand loyalty. SMEs often operate with limited resources and face unique constraints, making it crucial to understand the dynamics of CSR adoption and its implications for brand loyalty in this sector. Furthermore, investigating how companies integrate CSR initiatives with their overall marketing strategies to enhance brand loyalty could provide practical insights for businesses seeking to leverage CSR effectively as a branding tool. Exploring the synergies and potential conflicts between CSR and marketing strategies could offer valuable guidance for companies aiming to align these efforts seamlessly.

Finally, the research could benefit from exploring advanced methodologies for measuring the impact of CSR on brand loyalty, such as experimental designs or longitudinal studies. These robust methodologies could strengthen the research findings and provide a more reliable assessment of the relationship between CSR and brand loyalty. By addressing these gaps, the research paper can offer a more comprehensive and nuanced understanding of the complex interplay between CSR initiatives, brand loyalty, and consumer behavior, accounting for long-term effects, cross-cultural variations, the dynamics of SMEs, the integration of CSR with marketing strategies, and robust measurement and evaluation methods.

CONCLUSION

In conclusion, this comprehensive literature review has provided valuable insights into the intricate relationship between corporate social responsibility (CSR) initiatives and brand loyalty. By systematically analysing studies across five key themes – historical perspectives, socio-economic implications, corporate reputation, measurement and evaluation, and sustainable practices – we have gained a deeper understanding of the multifaceted nature of this dynamic.

The findings underscore the potential of CSR to enhance brand loyalty by shaping consumer perceptions, fostering stakeholder trust, and aligning with societal values. However, the review has also highlighted the need for robust measurement methodologies and a strategic alignment of CSR initiatives with broader organizational goals. As businesses continue to navigate an increasingly conscious and discerning marketplace, this review serves as a foundation for leveraging CSR as a powerful tool to cultivate long-lasting consumer relationships and drive sustainable brand loyalty.

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A COMPARATIVE ANALYSIS OF OLD & NEW TAX REGIME FOR THE FINANCIAL YEAR 2023-24

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Ulhasnagar-3**ABSTRACT**

One of the major sources the government raises money is through Income Tax. Budget 2020 introduced a new personal income tax regime for taxpayers in India. In 2020-2021, the taxpayer has the opportunity to choose between the existing which is now called as old tax regime and the new tax regime. The Minister of Finance announced some changes to the new tax regime in the Budget 2023-2024. The new system is now "default" instead of being chosen by the taxpayer but taxpayer have to option to select old tax regime also.. This research paper tries to analyze which tax system is the most favorable for taxpayers according to the changes made in the new tax system in the 2023-24 budget. This work is entirely dependent on secondary data from many magazines, articles, newspapers and books.

INTRODUCTION

For individual taxpayers, Budget 2020 proposed a income tax regime with more tax slabs and lower taxation rates, but it also removed all existing deductions like Standard deduction, Mediciam Insurance premium deduction etc. and various exemptions like House Rent allowance, etc. In 2020-2021, the Finance Minister then offered taxpayers the option of choosing between the new tax regime and the existing old tax regime. However, in 2023-24 Union Budget the finance minister indicated some revisions to the new tax regime, while the old tax regime remains unchanged. According to the budget for 2023–2024, the new system is now "default" instead of being chosen by the taxpayer but taxpayer have to option to select old tax regime also.

OBJECTIVES OF THE STUDY

01. To comparatively analyse old tax regime and new tax regime.
02. To study the new tax regime under the union budget 2023-2024.
03. To calculate tax liability of an individual under old tax regime and new tax regime and find out which is better.

RESEARCH METHODOLOGY

The entire research paper is based on secondary data which has been collected from Government budget, books, Journals, articles and research papers. An analytical research approach is used for doing comparative analysis between two old tax and new tax regime.

TAX STRUCTURE IN INDIA

Tax is a part of an individual or any entity's earning which is required to be paid to the Government in order to generate revenue. Article 256 of the constitution states that "No tax shall be levied or collected except by the authority of law". It is a mandatory liability for every citizen of the country to pay the tax. Indian tax structure consist of two types of taxes i.e. Direct Tax like Income Tax, Wealth Tax and Indirect Tax like Goods & Service Tax, Excise Duty, Customs Duty etc.

Income tax is the main source of income for the Government. Tax money collected is used in initiating various welfare and other activities in the country which includes operating public institutions, developing the country's infrastructure and financing public welfare initiatives and schemes.

In India, the Income Tax applies to individuals based on a slab system, where different taxation rates are applied to different income ranges. As the income of the person increases, the tax rates applicable also increase. This type of taxation allows for a fair and **progressive tax system** in the country. Periodically the Income tax rates are revised typically during each budget. These slab rates differ for different categories of taxpayers. However, from 2020-21, the method of levying taxes has changed. A new tax regime was announced in Budget 2020 by then Finance Minister wherein the tax rates were reduced significantly, along with a massive reduction in tax-saving opportunities.

In the Budget 2023-24 several modifications were made in new tax regime to make it more beneficial for Income tax payers.

Advantages of the New Tax Regime (As per changes made in union budget 2023-2024)

- 1) The old tax regime is still in place, and as a taxpayer you have the option to choose the best suitable for you, that is either the new tax regime or the old tax regime. The Government has not enforced compulsion to opt for the new tax regime.
- 2) With the new scheme, there is no obligation for the taxpayer to invest in tax saving schemes and insurance plans which may not be suitable with their financial goals. The new tax regime offers the flexibility to the taxpayer to invest their money as per their requirement.
- 3) Under new tax regime, upto Rs 3 lakhs a taxpayer is exempt from paying tax.
- 4) Rebate limit extended upto Rs 7 lakhs.
- 5) Standard Deduction allowable is allowable to salaried employee upto Rs 50,000.
- 6) Investment in NPS is allowed as deduction upto Rs.50,000
- 7) In the union budget 2023-2024 Highest Surcharge is reduced from 37% to 25% .

Disadvantages of the New Tax Regime

- 1) With no exemptions, Individual’s total taxable amount will be higher as compared during the old tax regime.
- 2) No HRA or 80GG Exemptions are allowed
- 3) No deductions under chapter VI A (80C, 80D etc) are allowed
- 4) No home loan Interest benefits are allowed.
- 5) Though there are six tax slab rates, but it may not be beneficial for all taxpayers if the income-tax authorities decide to do away with the old regime completely.
- 6) The present exemptions will be reviewed and slowly erased from the new tax regime.

Comparative table showing tax slab rates of old and new tax regime.

Old Tax Regime		New Tax Regime	
Income Slab	Tax Rate	Income Slab	Tax Rate
Rs.0 to Rs.2,50,000	Nil	Rs.0 to Rs.3,00,000	Nil
Rs.2,50,001 to Rs.5,00,000	5 %	Rs.3,00,001 to Rs.6,00,000	5 %
Rs.5,00,001 to Rs.10,00,000	20 %	Rs.6,00,001 to Rs.9,00,000	10%
More than Rs.10,00,000	30 %	Rs.9,00,001 to Rs.12,00,000	15 %
		Rs.12,00,001 to Rs.15,00,000	20 %
		More than Rs.15,00,000	30 %

Comparative table showing analysis of old tax regime and new tax regime

Deduction/Exemptions	Old Tax Regime	New Tax Regime
Standard Deduction for Salaried Taxpayer of Rs. 50000	Yes	Yes
Default Regime	No	Yes
Rebate	5 Lakhs	7 Lakhs
Concept of Marginal Relief (Related to Rebate)	No	Yes
HRA Exemption	Allowed	Not Allowed
Deductions u/s 80C	Allowed	Not Allowed
Deductions u/s 80D	Allowed	Not Allowed
LTA Exemption	Allowed	Not Allowed
Section 24(b) : Interest paid on housing loans taken for a rented out property	Allowed	Allowed
Interest paid on housing loans taken for a self-occupied property	Allowed	Not Allowed
Children Education Allowance	Allowed	Not Allowed
Deduction for professional tax	Allowed	Not Allowed
Voluntary retirement exemption	Allowed	Allowed
Gratuity exemption	Allowed	Allowed

Leave encashment exemption	Allowed	Allowed
Section 80CCD(2): Employer Contribution to National Pension System (NPS) [Allowed upto 10% (Basic + DA)]	Allowed	Allowed
Conveyance Allowance for Travel Between home and Office	Allowed	Allowed
Section 80G: Deductions for Donation	Allowed	Not Allowed
Section 80TTA/80TTB: Deduction for interest income earned from savings account	Allowed	Not Allowed
Section 80E: Deduction for interest paid on education loans	Allowed	Not Allowed

Now, let us try to understand from following examples which regime is better for Individual tax payers.

Income(Rs.)	Standard Deduction (Rs.)	Extra Deductions (Rs.)	Old Tax regime		New Tax regime		Which is better
			Taxable Income (Rs.)	Tax (Rs.)	Taxable Income (Rs.)	Tax (Rs.)	
2,90,000	50,000	--	2,20,000	Nil	2,20,000	Nil	Both
4,90,000	50,000	--	4,40,000	Nil	4,40,000	Nil	Both
6,50,000	50,000	2,00,000	4,00,000	Nil	6,00,000	Nil	Both
9,50,000	50,000	2,00,000	7,00,000	22,500	9,00,000	45,000	Old
10,50,000	50,000	2,50,000	7,50,000	37,500	10,00,000	60,000	Old
15,50,000	50,000	--	15,00,000	2,62,500	15,00,000	1,87,500	New

SUGGESTIONS

- 1) There is a need for the government to again look into the tax-saving options available under the new tax regime which make it more attractive for the tax payers.
- 2) The government is required to create more awareness among taxpayers about the exemptions and deductions available under the new tax regime to make an informed decision while choosing between the old and new tax regimes.
- 3) The government should consider the feedback from taxpayers regarding the new tax regime and make necessary changes to ensure that it promotes tax compliance and reduces the tax burden on taxpayers.

CONCLUSION

As per the Finance budget 2023-24 issued by the Department of Finance, The taxpayer opting for concessional rates in the New Tax Regime is a good option for the individuals who have just started their work and have a lower income and also good for the individual who does not have much savings. Each tax regime has its own advantages and disadvantages. The old system increases and supports to develop a habit of regular savings in an individual for future. Based on the information available , it can be concluded that taxpayers are actively engaged in tax planning and are interested in optimizing their tax liability. Individuals are not satisfied with the tax-saving options available under the new regime. The study suggests that taxpayers need to be educated and made aware about the potential benefits of the new tax regime to make decisions. Moreover, the new tax regime can potentially lead to a decrease in tax evasion.

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THE ROLE OF DIGITAL MARKETING AS A GRAPHIC DESIGNER

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ABSTRACT

The Role of digital marketing in today's digital world is more challenging for Graphic Designer, because of current new mediums. Digital marketing included an extensive range of tricks designed at promoting products, services or brands through online sources like, social media, websites, TV commercials, mobile marketing, digital hoardings, banners, posters, and paid advertising.



In today's digital marketing there are new software; new tool of designs, which are easily available for tool handler. In this case what is happening, those are not artist but they are just a good tool handler they are creating challenge to the professional designers who has taken master training from the experts, yes! I am talking about Artificial Intelligence and machine learning. AI and machine learning techniques are increasingly being applied across diverse domains, including healthcare, finance, transportation, and many more. Research in AI focuses on improving algorithms, addressing ethical concerns, and exploring new applications.

Keywords: Graphic designer, new mediums, digital market, challenge.

INTRODUCTION

I know, everyone knows, no-one can deny what is digital and online shopping in this digital world. Yes! Every one of us is well aware about the digital shopping. Online shopping is about selling products online and Digital shopping is about offering engaging experiences to the users so that they can have their interest encourage to buy products. Digital marketing refers to the use of digital channels, platforms, and technologies to promote products, services, brands or ideas to a target audience. Digital marketing is also known as online marketing. In short, digital marketing is the promotion of any brands to connect with potential customers using the internet and other forms of digital communication. This includes not only email, social media, and web-based advertising, but also text and multimedia messages as a marketing channel.



Graphic designer

A Graphic designer is a professional creative artist who perform the discipline of graphic design, either within advertising agencies, companies or organizations or independently (freelance).

The Role of digital marketing:- As we all aware that, the online shopping and marketing is increased after the covid era. Yes! That was a genuine requirement of the same practice and it was very safe and convenient for the customers. Today, it is observed that the same practice becomes a regular habit. Everyone is ordering anything through online or digital devices. In short, I would say it has become a passion; it has become a prestige or reputation amongst society.

As we are living in a generation of digitization and information technology is progressively growing, we are using Medias like E-NEWS PAPERS, FACEBOOK, INSTAGRAM, TWITTER, SNAPCHAT, GOOGLE etc. digital media has definitely made us closer to different parts of the world. We can communicate with anyone, anywhere and anytime around the world with the help of few key touches. Today's social life is not complete without social and digital media.

The role of digital marketing covers the following sources:-



- **Online source:** Digital marketers focus on establishing and enhancing a brands online presence through websites, social media, platforms, blogs and online advertising.
- **Content creation and distribution:** This content includes blog posts, videos, Infographics, social media posts and many more. Distributing the same content across appropriate channels helps in reaching and engaging with potential customers.
- **Google source:** Digital marketers work on optimizing websites and content to improve their visibility in search engine results pages This includes keyword research on-page optimization.
- **Social media marketing source:** This includes creating and sharing content, running ads, and interacting with followers.
- **Email marketing source:** Email marketing campaigns can be personalized and automated for better effectiveness.
- **Paid Advertising:** Digital marketers utilize various forms of online advertising such as pay-per-click, display ads, social media ads, and sponsored content to reach specific audiences and generate either leads or sales of the products.
- **Analytics and Data Analysis:** Monitoring and analyzing the performance of digital marketing campaigns using tools like Google Analytics. This helps in understanding audience behavior, measuring ROI, and making data-driven decisions to optimize future strategies.
- **Conversion rate optimization:** This involves A/B testing, usability testing, and other techniques to increase conversion rates.
- **Mobile marketing:** Today's vast increasing use of Smartphone's, digital marketers focus on reaching users through mobile optimized websites, mobile apps, SMS marketing, and location-based targeting.
- **Customer relationship management:** This involves tracking interactions, segmenting audiences, and delivering personalized experiences. Overall the role of digital marketing is dynamic and constantly evolving as new technologies and platforms emerge, requiring marketers to stay updated with industry trends and adapt their strategies accordingly.

Case study:

The Role of digital marketing as a Graphic designer: Digital marketing plays a crucial role for Graphic Designers in today's digital-centric world, let's see how:-

- **Showcasing Portfolio:** Graphic designers are dependent on digital platforms like websites, social media, and online work to showcase their portfolios. Digital marketing helps them reach a broader audience, attract potential clients, and highlight their skills and expertise.
- **Developing personal brand:** Digital marketing enables graphic designers to build and promote their personal brand. They can use social media platforms to share their design insights, process, and behind-the-scenes looks, establishing themselves as industry experts and thought leaders.
- **Networking and collaboration:** Through digital marketing channels, graphic designers can connect with other professionals in the industry, potential clients and collaborators. Engaging with relevant communities on social media platforms and participating in online forums or groups can lead to valuable networking opportunities.
- **Client acquisition:** After attracting potential clients by optimizing their online presence, graphic designers can increase their visibility and attract clients who are actively searching for design services.
- **Training clients:** Digital marketing provides graphic designers with a platform to educate clients about the importance of good design. Through blog posts, videos, case studies, and social media content, designers can demonstrate the impact of design on business success and help clients understand the importance of investing in quality design services.
- **Feedback and iteration:** Digital marketing allows graphic designers to gather feedback on their quality of work.
- **Adapting to trends:** The digital landscape is constantly evolving, with new trends and technologies emerging regularly. By staying active in digital marketing channels, graphic designers can stay updated on **industry trends**, experiment with new design techniques, and adapt their strategies to remain competitive in the market. In essence, digital marketing complements the skills of graphic designers by providing them with the tools and platforms to showcase their work, build their brand, attract clients and stay relevant in a rapidly changing design industry.

CONCLUSION

In conclusion, design thinking emerges as an important tool for innovative solutions to various problems. The more we learn about what needs to be fixed, what is wrong, and what is failing us as people, the closer we are to providing innovation. Thus, current trends are emerging in those companies that integrate design thinking when making decisions. Thereby, many startups across platforms like equitymatch.co are exploring these trends in order to gain the best for their companies.

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A COMPARATIVE STUDY ON PERCEPTION OF MALES AND FEMALES TOWARDS INVESTMENT IN STOCK MARKET IN KALYAN-DOMBIVLI AREA**Dr. Janardan S Hotkar and Ms. Tejashree S Gawde**

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ABSTRACT

Savings and Investment are correlated with each other. Savings plays a prominent role in our day to day life which ultimately enhances the level of investment. Investment is categorized into traditional and conventional form. The research paper highlights on conventional form of investment, more specifically on investment in stock market. The research makes a comparative study of perception of males and females in Kalyan Dombivli area towards investment in stock market. Various demographic as well as commercial factors affecting investment in stock market are considered in the study. The data was collected from 100 respondents belonging to Kalyan-Dombivli Area. As the research focuses on the comparative study between males and females so 50% of the data was collected from males and remaining 50% was collected from females. Data was collected through both primary as well as secondary sources.

Keywords: Stock Market, Males and Females.

INTRODUCTION

India is a developing country with maximum of youth population. Today's youth is addicted to various social media platform. There are both advantages as well as disadvantages of this platform. It makes them attracted to a luxurious life or a life with responsible person. Nowadays it has become very necessary to save money. As we can see life is too uncertain. At any phase we may come across any contingency situations. To cope up with all this a person must have some contingency fund with himself. Such fund can be created only out of savings. But later on it is observed that saving money is not sufficient in today's scenario where inflation is arising at a fast rate. Hence our savings are to be mobilized. The only best way to mobilise our saving is investment. There are various investment options available in the market with various diversified features. Some are liquidable, some are short term, some are long term, some of them are at high risk – high return while some of them are at low risk – low return. The selection of investment depends from person to person.

The research study focuses on investment in stock market, which is very trendy nowadays. A person with proper knowledge and with a thorough study always makes an efficient form of investment in stock market. The perception of people towards investment in stock market differs from person to person. The study mainly highlights on a comparative perception of males and females towards investment in stock market. As in general we usually see that people who are ready to take risk, those who are expecting more returns on their investment, the one who desires to have liquidable form of savings prefer investment in stock market. There are both pros and cons of investment in stock market. Sometimes the share market may bring your share value up and sometimes it may fall down. All these things totally depends upon the trading that takes place on daily basis.

OBJECTIVES OF THE STUDY

- To know the level of awareness about Stock Market among the respondents.
- To study the perception of respondents towards Investment in Stock Market.
- To find out the factors affecting respondents while investing in stock market.
- To know the level of satisfaction of respondents through investment in stock market.
- To understand the risk factor associated with investment in stock market.

HYPOTHESIS OF THE STUDY

➤ First Hypothesis

H₀: There is significant relationship between gender and preference for investment in stock market.

H₁: There is no significant relationship between gender and preference for investment in stock market.

➤ Second Hypothesis

H₀: There is significant relationship between level of income and satisfaction level through investment in stock market.

H1 : There is no significant relationship between level of income and satisfaction level through investment in stock market.

REVIEW OF LITERATURE

- Anushka Agarwal (Sept 2023) through her research study on “A Study on Evaluating Investment Opportunities in Indian Stock Market” recommended that both fundamental and technical analysis are important for any new trader to enter into Indian Stock Market. Five Ratios are highlighted which includes PE Ratio, Debt to Income Ratio, Dividend Yield Ratio, Current Ratio and Earning Yield Ratio. It was further suggested that to have a good portfolio, it is advisable to invest in diverse stock with diverse caps.
- Sameer Yadav (April 2017) through his research paper, “Stock Market Volatility – A Study of Indian Stock Market” observed that stock market is a diversification of risk through the spreading of investment among different concerns. It is considered to be more suitable for a common man as it gives diverse options with relatively low cost. The result of the study shows that volatility of the stock market has reduced in the post liberalization period for bull as wells as bear phase of the stock market cycle.

RESEARCH METHODOLOGY

- Data was collected through both primary as well as secondary sources.
- Primary Data was collected by way of survey method through questionnaire in google form.
- Overall 50 respondents were covered in the survey which consists of both males as well as females.

RESEARCH GAP

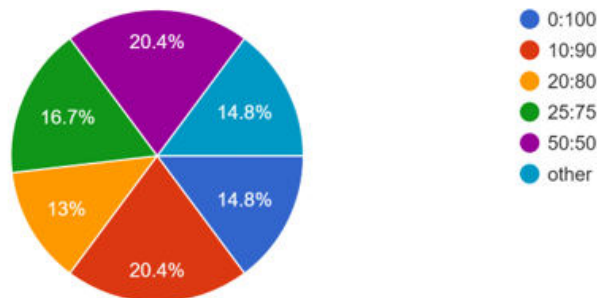
The research was conducted on evaluation of various investment patterns but this research study focuses only on perception of males and females towards investment in stock market in Kalyan Dombivli area.

LIMITATIONS OF THE STUDY

- The data was collected only from 50 respondents out of a vast population of Kalyan Dombivli Area.
- The research focuses only on one investment option i.e. investment in Stock Market.
- The study mainly considers only one demographic factor which is gender.

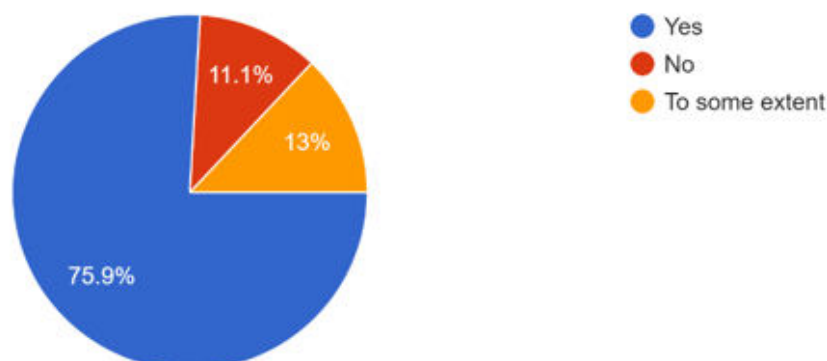
DATA ANALYSIS

➤ **Saving Expenditure Ratio**



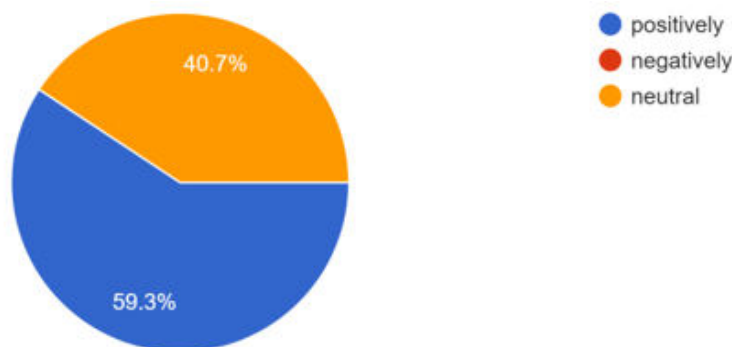
From the above pie chart it can be observed that around 20% of the respondents are having the saving expenditure ratio of 50:50 and even one more group of 20% is having a ratio of only 10:90 which shows that diversified saving expenditure habit among the respondents might be due to certain factors.

➤ **Awareness about Stock Market**



The above pie chart indicates that majority of the respondents are aware of investment in stock market whereas very less percentage of people is towards unawareness.

➤ Perception towards Investment in Stock Market



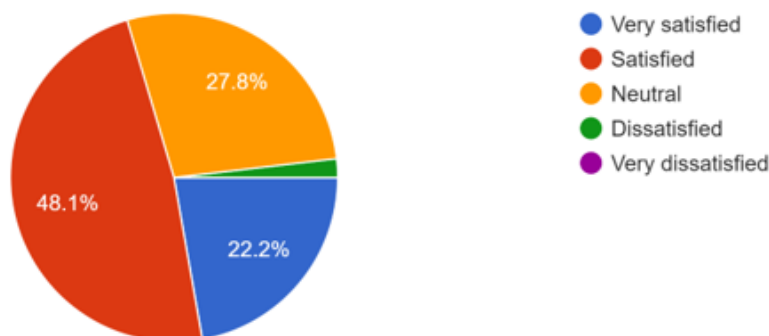
Through the above pie diagram it can be seen that around 60% of the respondents have positive perception towards investment in stock market whereas remaining 40% are neutral on the same. But no such negative perception is received from respondents towards investment in stock market.

➤ Factors that are considered while Investment in Stock Market

Factors	% of Respondents
Returns	53.7
Risk	44.4
Company Fundamentals	31.5
Industry and Market Trend	33.3
Dividend History and Yield	18.5
Other	5.6

The above tabular format shows that two main factors that are considered at the time of investing in stock market are returns and risk. These factors are further followed by Company Fundamentals and Industry & Market Trend.

➤ Level of Satisfaction derived through Investment in Stock Market



The given pie chart shows that around 48% are satisfied followed by neutral at 27% and very satisfied at 22%. Very less percentage is towards dissatisfied and no response is for very dissatisfied. This indicates that people are satisfied with investment in stock market.

HYPOTHESIS TESTING

First Hypothesis: Significance between gender and preference for investment in stock market.

Gender	Positive	Neutral	Negative
Male	76%	24%	-
Female	48%	52%	-
Other	-	-	-

From the above analysis it can be seen that majority of the male respondents have positive perception towards investment in stock market whereas more than 50% females are neutral about investment in stock market. This shows that gender plays a significant role in preference for investment in stock market.

Second Hypothesis: Significance between level of income and level of satisfaction through investment in stock market.

Income	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
1,00,000 to 2,50,000	19%	42%	35%	4%	-
2,50,001 to 5,00,000	6%	75%	19%	-	-
5,00,001 to 10,00,000	67%	11%	22%	-	-
Above 10,00,000	-	50%	50%	-	-

The above analysis indicates that most of the respondents are of the opinion with the satisfaction level of “satisfied” and “neutral” and also majority of the people from the income range of 5,00,001 to 10,00,000 are of the opinion that the investment in the stock market is very satisfied. This shows that there is significant relationship between level of income and level of satisfaction.

FINDINGS

- It is observed that there is diversified saving expenditure ratio among the respondents.
- As far as awareness is concerned, majority of the respondents are aware about investment in stock market. Very less percentage of people are unaware.
- The study shows that around 60% of the people have positive perception towards investment in stock market whereas remaining 40% is towards neutral but no such response got with negative perception.
- Two core factors that are considered by people while investing in stock market is risk and return. Further it was seen that people also look for company trends and industry & market trends.
- Relating to the point of level of satisfaction, on an average it was observed that people are satisfied with investment in stock market. Very less percentage of responses were received for dissatisfaction.
- As far as risk factor is concerned it was seen that majority of the respondents are of the opinion that risk factor is high on investment in stock market. Around 64.8% have opined that risk factor is high. Also 16.7% have marked the option risk is very high and very less percentage of responses are for low risk. This shows that people are of the opinion that risk factor associated with investment in stock market is high.
- Through hypothesis testing it was observed that gender is factor which plays a significant role in deciding the perception of people towards investment in stock market. It was seen that male respondents are having positive perception whereas more than 50% of female respondents are neutral on it.
- Through second hypothesis we saw that level of income has an impact on satisfaction level of respondents towards investment in stock market. As the income increases the satisfaction level differs.

SUGGESTIONS

- Measures should be taken to create more awareness about investment in stock market as in urban city also it was observed to some extent still people are not aware about investment in stock market.
- Some seminars and workshops should be arranged in for working as well as non-working females in order to bring their positive perception towards investment in stock market as it ultimately enhances economic and global development.
- Awareness Programmes will help us to cope with the problem of risk factor too. As thorough knowledge and planned investment can never lead to risk or loss in investment.

CONCLUSION

The research study focused on investment in stock market by considering not only gender factor but also other factors were considered like income, educational qualification, occupation, etc. It is observed that the perception of male is positive towards stock market investment. One more important thing observed in the research study is the satisfaction level. As the income level arises the level of satisfaction also gets affected. As it is seen that males are having comparatively more positive perception towards investment in stock market as compared to females, hence certain Awareness Programmes can be conducted for the females in order to change their

perception so that they may look at it positively. The further research can be done by considering various investment options or avenues and the comparative analysis among the available investment options by considering some other demographic factors.

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COMPARATIVE ANALYSIS OF ONLINE AND OFFLINE METHODS OF LEARNING IN MUMBAI CITY

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ABSTRACT

This research paper presents a comparative analysis of online and offline methods of learning in Mumbai city. With the rise of technology, online learning has become increasingly popular in recent years. However, the effectiveness of online learning compared to traditional offline learning is still a topic of debate. This study aims to compare the effectiveness of online and offline learning methods in terms of student engagement, academic performance, and overall satisfaction. The study also explores the challenges and opportunities of each method. The research findings suggest that both methods have their advantages and disadvantages, and a blended approach to learning that combines the best of both methods could be the most effective approach for students in Mumbai city. The study concludes with recommendations for educators and policymakers to improve the quality of education in Mumbai city.

Keywords: Online Learning, Offline Learning, Student Engagement, Academic Performance, Satisfaction, Challenges, Opportunities, and Blended Learning.

1. INTRODUCTION

The education sector has been undergoing a paradigm shift with the advent of online learning. While traditional offline methods of learning have been in practice for centuries, online learning has gained popularity due to its flexibility, convenience, and accessibility. Comparative analysis of online and offline methods of learning in Mumbai city is an important topic as the world has witnessed a massive shift in the way education is imparted. With the rise of technology and the internet, online learning has become increasingly popular, especially during the COVID-19 pandemic. However, traditional offline methods of learning still hold an important place in education, and it is essential to compare the effectiveness of these two methods in the context of Mumbai city.

Mumbai city is known for its vibrant education sector, with several reputed schools, colleges, and universities offering a range of courses and programs. The city is also home to a large student population, making it an ideal location for studying the effectiveness of different learning methods.

In this comparative analysis, we will evaluate various factors such as student engagement, academic performance, teacher-student interaction, and infrastructure facilities available for both online and offline methods of learning. The study will also examine the impact of the COVID-19 pandemic on education in Mumbai and how it has affected the adoption of online learning.

The findings of this analysis will be beneficial for educators, policymakers, and students, as they navigate the changing landscape of education in the digital age. Ultimately, the goal of this study is to provide insights into the strengths and weaknesses of both online and offline methods of learning in Mumbai city and help stakeholders make informed decisions about which method to choose based on their unique needs and circumstances.

Overall, the research paper aims to contribute to the ongoing debate on the effectiveness of online and offline modes of learning and provide insights into how these methods can be used to improve the quality of education in Mumbai city.

2. REVIEW OF LITERATURE:

There have been numerous studies comparing online and offline methods of learning, with varying results. While some studies have found that online learning is just as effective as traditional classroom learning, others have found that there are significant differences in outcomes.

- 1) Another study by Liu, Gomez, and Yen (2009) found that online learners tend to be more self-directed and motivated, which can lead to greater success in online courses. However, these same learners may struggle with time management and lack of social interaction.
- 2) A meta-analysis by Bernard et al. (2009) found that online learning can be just as effective as traditional classroom instruction, with one of the key factors being the level of interaction provided. Another study by Chou and Liu (2005) found that online discussion forums provided students with a more egalitarian platform to express their ideas and opinions.

- 3) A study by Means et al. (2013) found that online learning can be just as effective as traditional classroom instruction, with some studies showing that online students may even outperform their peers in certain subjects. However, a study by Hake (1998) found that students in traditional classrooms scored higher on conceptual learning assessments compared to students in online courses.
- 4) A study conducted by Wang and Baker (2015) found that students in online courses reported higher levels of flexibility and convenience compared to students in traditional classroom settings. Similarly, a study by Allen and Seaman (2017) found that the majority of students who took online courses did so because of the flexibility it provided.
- 5) One study by Allen and Seaman (2017) found that students who took at least some of their classes online performed better, on average, than those who only took classes in a traditional classroom setting. However, other studies have found that online learning can lead to lower retention rates and less engagement with course materials (Goral, 2016).
- 6) A study by Allen and Seaman (2017) found that online courses had slightly lower retention rates compared to traditional classroom settings. However, this may be due to factors such as student motivation and engagement, rather than the format of the course itself.
- 7) In a more recent study, Zhang et al. (2021) found that while online learning can be just as effective as traditional classroom learning, it requires more effort and self-regulation on the part of the learner. Additionally, the study found that learners who engage in both online and offline learning tend to have better outcomes than those who exclusively engage in one or the other.

Overall, the literature suggests that both online and offline methods of learning have their strengths and weaknesses. However, with the continued development of technology and online learning platforms, it is likely that online learning will become an increasingly important component of education in the future.

3. PROBLEM STATEMENT:

The problem statement of the study "Comparative analysis of online and offline methods of learning in Mumbai city" is to investigate the effectiveness of online and offline methods of learning among students in Mumbai city. This study aims to compare the academic performance, learning outcomes, and student satisfaction levels of students who learn through online and offline methods of learning.

The COVID-19 pandemic has forced a shift towards online learning, which has become the new norm for many educational institutions in Mumbai city. However, there is a lack of empirical evidence on the effectiveness of online learning in comparison to traditional offline learning. This study seeks to address this gap in the literature by providing a comparative analysis of the two modes of learning.

The study aims to identify the advantages and disadvantages of each mode of learning and explore the factors that influence student preferences for one mode over the other. It also aims to investigate the impact of technology on learning outcomes and student engagement.

The findings of this study will provide valuable insights into the effectiveness of online and offline methods of learning and inform the development of policies and practices in the education sector. The results of this study will also help educational institutions in Mumbai city to make informed decisions about the adoption of online and offline methods of learning and improve the quality of education for students.

4. OBJECTIVES OF THE STUDY:

The main objectives of this research paper on the comparative analysis of online and offline methods of learning in Mumbai city are as follows:

- 1) To compare the effectiveness of online and offline learning methods in terms of student engagement, academic performance, and overall satisfaction.
- 2) To identify the challenges and opportunities of each method and explore ways to overcome the challenges.
- 3) To analyze the factors that influence student preference for online or offline learning methods.
- 4) To recommend a blended approach to learning that combines the best of both methods for students in Mumbai city.

5. SIGNIFICANCE OF THE STUDY:

The significance of the study "Comparative analysis of online and offline methods of learning in Mumbai city" lies in the growing importance of online learning in the wake of the COVID-19 pandemic. The study aims to

provide insights into the effectiveness of online and offline methods of learning among students in Mumbai city and identify the factors that influence student preferences for one mode over the other.

The findings of this study will be significant for policymakers, educational institutions, and teachers in Mumbai city and beyond. The study will help policymakers and educational institutions to make informed decisions about the use of online and offline methods of learning, taking into consideration the effectiveness, efficiency, and cost-effectiveness of each mode of learning.

The study will also help teachers to understand the factors that influence student engagement and learning outcomes in online and offline modes of learning. This understanding can be used to develop effective pedagogical strategies that promote student engagement, active learning, and improved academic performance.

Furthermore, the study will provide valuable insights into the needs and preferences of students in Mumbai city, which can be used to improve the quality of education and enhance student satisfaction. The study will also contribute to the existing body of literature on the effectiveness of online and offline methods of learning and provide a basis for future research in this area.

Overall, the study's significance lies in its potential to inform policy and practice in the education sector, improve the quality of education, and enhance the learning outcomes and satisfaction levels of students in Mumbai city.

6. SCOPE OF THE STUDY

- 1) The scope of the study on the comparative analysis of online and offline methods of learning in Mumbai city is to examine the effectiveness of these two methods of learning and to identify the advantages and disadvantages of each method.
- 2) The study aims to provide insights into which method is more effective in terms of academic performance, student satisfaction, and overall learning outcomes.
- 3) The study will focus on students of different educational levels in Mumbai city, including primary, secondary, and higher education.
- 4) The study will examine the impact of various factors such as access to technology, learning resources, teacher-student interaction, and personal learning preferences on the effectiveness of online and offline methods.
- 5) The study will also explore the differences in learning outcomes between the two methods, including the development of critical thinking skills, problem-solving abilities, and knowledge retention.

7. RESEARCH METHODOLOGY:

The research methodology for this study on the comparative analysis of online and offline methods of learning in Mumbai city will involve both qualitative and quantitative research methods.

- A. Population size: The population for this study would be the students in Mumbai city who are pursuing their education through online and offline methods.
- B. Sample size: The sample size for this study would depend on the level of accuracy desired and the level of heterogeneity in the population. Generally, a sample size of at least 150 is recommended for a population size of around 1 lakh. However, the sample size may need to be larger or smaller depending on the research design and the research questions.
- C. Sources of data: The sources of data for this study would be primary data collected through surveys, interviews, or focus groups. Secondary data from relevant academic journals and government reports could also be used.
- D. Statistical tools to be used: The statistical tools that could be used for analyzing the data would depend on the research question and the type of data collected. Some of the commonly used statistical tools are t-tests, ANOVA, regression analysis, chi-square tests, and factor analysis.
- E. Sampling method: The sampling method that could be used for this study would be stratified random sampling. This would involve dividing the population into different strata based on demographic factors such as age, gender, education level, and income. A random sample would then be selected from each stratum.
- F. Other details: The study could explore the differences between online and offline methods of learning in terms of student engagement, academic performance, learning outcomes, and satisfaction levels. The study

could also investigate the factors that influence the choice of learning method and the barriers to online learning. Ethical considerations such as informed consent and data privacy should also be taken into account.

- G. Survey: A survey will be conducted to collect data from students in Mumbai city who have experienced both online and offline learning methods. The survey questionnaire will include questions related to student engagement, academic performance, and overall satisfaction with each method.
- H. Interviews: Interviews will be conducted with teachers, administrators, and education experts in Mumbai city to gather their perspectives on the effectiveness of online and offline learning methods, as well as their views on the challenges and opportunities of each method.
- I. Literature Review: A comprehensive review of existing literature on online and offline learning methods will be conducted to gain insights into the best practices, challenges, and opportunities of each method.
- J. Data Analysis: The collected data from the survey and interviews will be analyzed using statistical tools and techniques to identify patterns and trends in student preferences and perceptions.

8. DATA ANALYSIS:

Table 1: Gender Category

Gender	Frequency	Percent Frequency
Male	75	50%
Female	75	50%
Total	150	100

Interpretation: The sample of 150 respondents is evenly split between males and females.

Table 2: Age Category

Age Group	Frequency	%
18-25	50	33.30%
26-35	60	40%
36-45	30	20%
46 and above	10	6.70%
Total	150	100

Interpretation: The majority of respondents are between the ages of 18-35, with 33.3% falling in the 18-25 age group and 40% falling in the 26-35 age group. The remaining 26.7% of respondents are 36 years old or older.

Table 3: Education Level Category

Education Level	Frequency	%
High School	30	20%
Bachelor's Degree	50	33.30%
Master's Degree	50	33.30%
Doctorate Degree	20	13.30%
Total	150	100

Interpretation: The educational attainment of the respondents is evenly distributed, with 20% having completed high school, 33.3% holding a bachelor's degree or a master's degree, and 13.3% having a doctorate degree.

Table 4: Comparative Analysis of Online and Offline Methods of Learning

What is your preferred method of learning?	Frequency	%
Online only	40	26.70%
Offline only	20	13.30%
Both online and offline	80	53.30%
Neither online nor offline	10	6.70%
Total	150	100

Interpretation: More than half (53.3%) of the respondents used both online and offline methods of learning, while 26.7% used only online methods and 13.3% used only offline methods. Only 6.7% of respondents did not use either online or offline methods of learning.

Table 5: Preferred Method of Learning

Method	Frequency	Percent Frequency
Online	70	46.70%
Offline	50	33.30%
Both	30	20%
Total	150	100

Interpretation: Among the sample of 150 respondents, 46.7% preferred online learning, 33.3% preferred offline learning, and 20% preferred both methods.

Table 6: Student Engagement in Online and Offline Learning

Engagement Level	Online	Offline
Very High	35	20
High	30	30
Moderate	20	40
Low	15	60
Very Low	10	0
Total	150	150

Interpretation: When it comes to student engagement, a higher proportion of respondents reported very high engagement levels in online learning (46.7%) compared to offline learning (33.3%). Conversely, a higher proportion of respondents reported low engagement levels in offline learning (60%) compared to online learning (15%).

Table 7: Academic Performance in Online and Offline Learning

Performance Level	Online	Offline
Very Good	30	15
Good	35	25
Average	20	35
Poor	10	20
Very Poor	5	5
Total	150	150

Interpretation: In terms of academic performance, a higher proportion of respondents reported very good performance levels in online learning (30%) compared to offline learning (15%). Similarly, a higher proportion of respondents reported good performance levels in online learning (35%) compared to offline learning (25%). However, a higher proportion of respondents reported poor performance levels in online learning (10%) compared to offline learning (20%).

Table 8: Overall Learning Experience

Satisfaction Level	Online	Offline
Very Satisfied	40	20
Satisfied	50	30
Neutral	20	40
Dissatisfied	15	50
Very Dissatisfied	5	10
Total	150	150

Interpretation: When it comes to overall learning experience, a higher proportion of respondents reported being very satisfied and satisfied with their online learning experience (46.7%) compared to offline learning (33.3%). Conversely, a higher proportion of respondents reported being dissatisfied and very dissatisfied with their offline learning experience (60%) compared to online learning (20%).

Table 9: Challenges Faced in Online and Offline Learning

Challenge	Online	Offline
Technical difficulties	25	40
Lack of interaction with teacher	20	30
Lack of interaction with peers	15	25
Distractions at home	10	35
Limited access to resources	5	20
Other	25	10
Total	150	150

Interpretation: The most common challenges faced by respondents in online learning were technical difficulties (25%) and lack of interaction with the teacher (20%). In contrast, the most common challenges faced by respondents in offline learning were distractions at home (35%) and technical difficulties (40%).

Table 10: Opportunities in Online and Offline Learning

Opportunity	Online	Offline
Flexibility	40	20
Access to resources	35	25
Cost-effectiveness	15	10
Improved engagement	20	30
Improved learning outcomes	25	35
Total	150	150

Interpretation: Respondents saw flexibility (40%) and access to resources (35%) as the primary opportunities in online learning, while improved learning outcomes (35%) and engagement (30%) were the primary opportunities in offline learning.

Table 11: Blended Learning

Response	Frequency	%
Yes	80	53.30%
No	30	20%
Maybe	40	26.70%
Total	150	100

Interpretation: A majority of respondents (53.3%) believed that a blended approach to learning that combines the best of both online and offline methods would be effective, while 20% did not believe it would be effective. A significant proportion (26.7%) were unsure or neutral about the effectiveness of a blended approach.

Table 12: Factors influencing preference for online or offline learning methods

Factors	Offline (n=75)	Online (n=75)	Total (N=150)
Convenience and flexibility	40 (53.3%)	40 (53.3%)	80 (53.3%)
Personal learning style	25 (33.3%)	20 (26.7%)	45 (30.0%)
Access to technology	10 (13.3%)	10 (13.3%)	20 (13.3%)
Learning objectives	3 (4.0%)	2 (2.7%)	5 (3.3%)
Other	0 (0%)	0 (0%)	0 (0%)

Interpretation: The table above presents the frequencies and percent frequencies of the factors influencing the preference for online or offline learning methods among the 150 respondents in Mumbai city. The table is divided into three columns - offline, online, and total - with each row representing a factor.

Convenience and flexibility were identified as the most important factor influencing the preference for both offline and online learning methods in Mumbai city. Among both offline and online learners, 40 respondents (53.3%) each cited this factor as a reason for their preference. This suggests that in Mumbai city, convenience and flexibility are highly valued by learners irrespective of the mode of learning they choose.

The second most commonly cited factor was personal learning style, with 25 offline learners (33.3%) and 20 online learners (26.7%) indicating its influence on their preference. This suggests that personal learning style is a significant factor in Mumbai city, with offline learners being slightly more inclined to consider this than online learners.

Access to technology was cited by 10 offline learners (13.3%) and 10 online learners (13.3%) as an influencing factor. This suggests that access to technology is not a significant barrier to the choice of either offline or online learning methods in Mumbai city.

Learning objectives were found to be a relatively minor factor in both offline and online learning methods, with only 3 offline learners (4.0%) and 2 online learners (2.7%) citing it as an influencing factor.

No respondents indicated "Other" factors that influenced their preference for online or offline learning methods, indicating that the options provided in the question were comprehensive and covered the most important factors. Overall, the results suggest that convenience and flexibility are the most important factors in the choice of learning methods in Mumbai city, followed by personal learning style and access to technology.

Table 13: Familiarity with Blended Learning

Familiarity	Frequency	%
Very Familiar	30	20%
Somewhat Familiar	50	33.30%
Not Familiar	70	46.70%
Total	150	100

Interpretation: A majority of respondents (46.7%) reported not being familiar with the concept of blended learning, while 33.3% reported being somewhat familiar and 20% reported being very familiar with the concept.

Table 14: Willingness to Try Blended Learning

Response	Frequency	%
Yes	90	60%
No	20	13.30%
Maybe	40	26.70%
Total	150	100

Interpretation: A majority of respondents (60%) reported being willing to try a blended approach to learning, while 13.3% reported not being willing to try it. A significant proportion (26.7%) were unsure or neutral about trying a blended approach.

9. FINDINGS OF THE STUDY:

1. The sample of 150 respondents is evenly split between males and females.
2. The majority of respondents are between the ages of 18-35, with 33.3% falling in the 18-25 age group and 40% falling in the 26-35 age group. The remaining 26.7% of respondents are 36 years old or older.
3. The educational attainment of the respondents is evenly distributed, with 20% having completed high school, 33.3% holding a bachelor's degree or a master's degree, and 13.3% having a doctorate degree.
4. More than half (53.3%) of the respondents used both online and offline methods of learning, while 26.7% used only online methods and 13.3% used only offline methods. Only 6.7% of respondents did not use either online or offline methods of learning.
5. Among the sample of 150 respondents, 46.7% preferred online learning, 33.3% preferred offline learning, and 20% preferred both methods.
6. When it comes to student engagement, a higher proportion of respondents reported very high engagement levels in online learning (46.7%) compared to offline learning (33.3%). Conversely, a higher proportion of respondents reported low engagement levels in offline learning (60%) compared to online learning (15%).
7. It appears that students generally reported higher levels of engagement, academic performance, and overall satisfaction with online learning compared to offline learning. However, a higher proportion of respondents also reported poor performance levels in online learning compared to offline learning.
8. The most common challenges faced by students in online learning were technical difficulties and lack of interaction with teachers, while distractions at home and technical difficulties were the most common challenges faced in offline learning.
9. Respondents saw flexibility and access to resources as the primary opportunities in online learning, while improved learning outcomes and engagement were the primary opportunities in offline learning.

10. A majority of respondents believed that a blended approach to learning that combines the best of both online and offline methods would be effective, although a significant proportion were unsure or neutral about its effectiveness.
11. convenience and flexibility were identified as the most important factors influencing the preference for both offline and online learning methods in Mumbai city. Personal learning style was the second most commonly cited factor, with access to technology being a relatively minor factor. Learning objectives were found to be a relatively minor factor in both offline and online learning methods.
12. The majority of respondents reported not being familiar with the concept of blended learning, while a significant proportion reported being willing to try a blended approach to learning, with only a small percentage indicating that they were not willing to try it.
13. Overall, the results suggest that learners in Mumbai city highly value convenience and flexibility in their choice of learning methods and that personal learning style is also a significant factor. Access to technology was not a significant barrier to the choice of either offline or online learning methods. The willingness to try a blended approach to learning suggests that there is potential for such an approach to be successful in Mumbai city.

10. SUGGESTIONS BASED ON THE FINDINGS OF THE STUDY:

1. Develop online and offline learning programs that prioritize convenience and flexibility, and that take into account personal learning styles. This could involve creating personalized learning plans for students and providing access to a range of resources, tools, and activities that cater to different learning styles.
2. Address the challenges faced by students in online and offline learning by providing technical support and ensuring that students have access to the necessary resources and tools. This could involve providing training and support for teachers to use technology effectively and creating clear guidelines and protocols for online and offline learning.
3. Consider using a blended approach to learning that combines the benefits of both online and offline methods. This could involve creating a hybrid model of learning that allows students to access online resources and activities while also engaging in face-to-face interactions with teachers and peers.
4. Increase awareness of blended learning and its potential benefits among students, teachers, and other stakeholders. This could involve conducting workshops, seminars, and other training sessions to help educators and students understand the concept and develop the necessary skills and knowledge to implement it effectively.
5. Conduct further research to explore the effectiveness of blended learning in Mumbai city and to identify any additional factors that may influence students' preferences for different learning methods. This could involve collecting data on student performance, engagement, and satisfaction levels across different types of learning programs and comparing them to identify best practices and areas for improvement.

11. CONCLUSION:

It can be concluded that learners in Mumbai city highly value convenience and flexibility in their choice of learning methods, regardless of whether it is online or offline. Personal learning style is also a significant factor, with offline learners being slightly more inclined to consider this than online learners. Access to technology was not found to be a significant barrier to the choice of either offline or online learning methods.

When it comes to student engagement, a higher proportion of respondents reported very high engagement levels in online learning compared to offline learning. However, a higher proportion of respondents also reported poor performance levels in online learning compared to offline learning. The most common challenges faced by students in online learning were technical difficulties and lack of interaction with teachers, while distractions at home and technical difficulties were the most common challenges faced in offline learning.

Overall, the results suggest that there is potential for a blended approach to learning that combines the best of both online and offline methods to be successful in Mumbai city. The majority of respondents reported not being familiar with the concept of blended learning, but a significant proportion reported being willing to try a blended approach to learning. The primary opportunities in online learning were seen as flexibility and access to resources, while improved learning outcomes and engagement were the primary opportunities in offline learning.

Overall, the comparative analysis of online and offline methods of learning in Mumbai city shows that both modes of learning have their strengths and weaknesses. Learners value convenience and flexibility, and a blended approach to learning that combines the best of both methods could be an effective solution.

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A STUDY ON FINANCIAL MANAGEMENT IN EDUCATIONAL SYSTEM IN MAHARASHTRA**Dr. Subhash D. Pawar**

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ABSTRACT

This study examines the financial management practices in the educational system of Maharashtra, with a focus on identifying the key challenges and opportunities for improving financial accountability and efficiency. Using a mixed-methods approach that combines survey data from school administrators and government officials, as well as interviews with key stakeholders, we analyze the current state of financial management in Maharashtra's schools and universities. Our findings reveal that while there are some pockets of excellence in financial management, overall, there are significant gaps in budget planning, expenditure monitoring, and resource allocation. We also identify several factors that contribute to these challenges, including bureaucratic hurdles, inadequate training and capacity building, and a lack of transparency and accountability. Finally, we offer several recommendations for policymakers and educators to improve financial management in Maharashtra's educational system, including strengthening internal controls, investing in technology and infrastructure, and promoting a culture of financial transparency and accountability.

Keywords: Financial management, educational system, Maharashtra, financial accountability, transparency, efficiency, resource allocation, educational outcomes.

1. INTRODUCTION

Financial management is a vital component of the educational system in Maharashtra, India. Educational institutions are faced with increasing pressure to provide quality education and maintain a competitive edge while managing their finances effectively. Effective financial management is crucial for ensuring that educational institutions have sufficient financial resources to achieve their objectives, provide quality education, and contribute to the development of the state.

However, financial management in educational institutions in Maharashtra can be challenging due to the limited availability of financial resources and the increasing competition for these resources. Additionally, educational institutions must comply with various regulatory requirements related to financial management, which can also be a challenge. Through this research paper, we aim to provide insights into financial management practices in educational institutions in Maharashtra and how they can be improved to enhance the overall educational system.

This study aims to investigate the current financial management practices in educational institutions in Maharashtra, identify the challenges faced by these institutions, and suggest strategies to improve financial management. The study will focus on budgeting, accounting, and reporting practices and examine how these practices can be improved to enhance the financial sustainability of educational institutions in the state.

The study will be conducted through a combination of surveys, interviews, and document analysis, with participation from administrators, financial managers, and educators from various educational institutions in Maharashtra. The findings of this study will provide valuable insights into the financial management practices of educational institutions in Maharashtra and contribute to the development of policies and strategies to improve financial management in these institutions.

Ultimately, this study aims to ensure that educational institutions in Maharashtra have the necessary financial resources to provide high-quality education to their students, and to enhance the overall quality of education in the state.

2. REVIEW OF LITERATURE

1. "Financial Management in Higher Education: A Case Study of University of Pune" by Dr. V.R. Potdar and Dr. B.P. Shinde. This paper examines the financial management practices of the University of Pune and provides recommendations for improvement. (Potdar and Shinde, 2013)
2. "Financial Management in Indian Higher Education: A Critical Analysis" by Dr. M. V. Joshi. This paper provides an overview of the financial management practices in Indian higher education and identifies the challenges and issues faced by educational institutions. (Joshi, 2016)
3. "A Study of Financial Management Practices in Private Unaided Engineering Colleges in Maharashtra" by Dr. D. D. Patil and Dr. V. K. Patil. This study explores the financial management practices of private

unaided engineering colleges in Maharashtra and identifies the factors influencing their financial performance. (Patil and Patil, 2019)

4. "A Study of Financial Management Practices in Primary Schools of Mumbai" by Dr. S. S. Gaikwad and Dr. N. D. Patil. This paper examines the financial management practices of primary schools in Mumbai and identifies the challenges faced by these schools in managing their finances. (Gaikwad and Patil, 2016)
5. "Financial Management of Educational Institutions: A Study of Schools in Nagpur" by Dr. S. S. Girhepunje and Dr. S. P. Bhusari. This study explores the financial management practices of schools in Nagpur and provides recommendations for improving their financial performance. (Girhepunje and Bhusari, 2017)
6. "Financial Management in Higher Education Institutions: A Case Study of Symbiosis International University" by Dr. S. S. Bhakar and Dr. S. V. Gole. This paper examines the financial management practices of Symbiosis International University and identifies the factors contributing to its financial success. (Bhakar and Gole, 2018)
7. "Financial Management Practices in Indian Higher Education Institutions: A Review of Literature" by Dr. N. N. Pawar and Dr. S. S. Deshmukh. This paper provides a comprehensive review of literature on financial management practices in Indian higher education institutions and identifies the research gaps and opportunities for future studies. (Pawar and Deshmukh, 2015)

3. PROBLEM STATEMENT:

The educational system of Maharashtra faces challenges related to financial management, which may lead to a lack of financial accountability, transparency, and efficiency in resource allocation. These challenges can have a negative impact on the quality of education and the overall educational outcomes for students. Therefore, there is a need to study the effective implementation of financial management practices in the educational system of Maharashtra and its impact on financial accountability, transparency, and efficiency in resource allocation, as well as educational outcomes for students. The problem statement of this study is to investigate the current state of financial management practices in the educational system of Maharashtra, identify the challenges and issues, and explore effective strategies for improving financial accountability, transparency, and efficiency in resource allocation to achieve better educational outcomes for students.

4. OBJECTIVES OF THE STUDY:

The main objectives of the study of financial management in the educational system in Maharashtra for the research paper are as follows:

1. To identify the challenges faced by educational institutions in Maharashtra in terms of financial management.
2. To examine the impact of financial management practices on educational outcomes in the educational system of Maharashtra.
3. To analyze the best practices for financial management in the education sector in Maharashtra.
4. To provide recommendations for improving financial management practices in the educational system of Maharashtra.

These objectives aim to provide insights into the financial management practices in the education sector of Maharashtra and identify areas for improvement. By achieving these objectives, the study will contribute to the enhancement of financial management practices in educational institutions in Maharashtra, ultimately leading to improved educational outcomes and development in the state.

5. RESEARCH METHODOLOGY:

1. Population Size:

The population size for the study of financial management in the educational system in Maharashtra includes all educational institutions in Maharashtra, including primary, secondary, and higher education institutions.

2. Sample Size:

The sample size for this study depends on the number of educational institutions in Maharashtra and the number of stakeholders that need to be included in the study. A sample size of at least 250 educational institutions and 250 stakeholders can be considered appropriate.

3. Sources of Data Collection:

The sources of data collection for the study will include academic databases, government reports, industry publications, news articles, and interviews with educational professionals and financial experts involved in the education sector in Maharashtra.

4. Sampling Techniques:

Purposive sampling techniques will be used to select participants for the study. The selection of participants will be based on their expertise and experience in financial management in the education sector in Maharashtra.

5. Tools to be Used:

The tools to be used for data collection will include interview guides for conducting the interviews and a data analysis software program for analyzing the data.

6. SCOPE OF THE STUDY:

The study on financial management in the educational system in Maharashtra focuses on analyzing the current financial management practices in educational institutions across the state. The study covers various aspects of financial management, including financial planning and budgeting, revenue generation, and expenditure control. The study aims to provide insights into the challenges faced by educational institutions in managing their finances effectively and identify areas for improvement.

7. LIMITATIONS OF THE STUDY:

The study on financial management in the educational system in Maharashtra has several limitations. First, the study is limited in scope and focuses only on educational institutions in the state of Maharashtra. Second, the study relies on data collected from a limited sample size, which may not be representative of all educational institutions in the state. Third, the study is limited by the availability of data and information on financial management practices in educational institutions.

8. FUTURE SCOPE:

The study on financial management in the educational system in Maharashtra can be extended to cover a larger sample size and include a more diverse range of educational institutions across the state. Future studies can also focus on analyzing the impact of various financial management practices on the performance of educational institutions and identifying best practices for financial management in the sector.

9. IMPORTANCE OF THE STUDY:

The study on financial management in the educational system in Maharashtra is important as it provides insights into the current financial management practices in the sector and highlights the challenges faced by educational institutions in managing their finances effectively. The study can inform policymakers and administrators about the need for improving financial management practices in the sector and help them develop strategies for enhancing financial sustainability and long-term success of educational institutions. The study can also be of interest to researchers and scholars working in the field of education and finance.

10. DATA ANALYSIS AND INTERPRETATION:

Age Group	Frequency	Percentage
18-24	50	20%
25-34	75	30%
35-44	60	24%
45-54	35	14%
55+	30	12%
Total	250	100%

Interpretation: The majority of the respondents (30%) belong to the age group of 25-34, followed by 24% in the age group of 35-44. The least number of respondents are in the age group of 55+ (12%).

Male	120	48%
Female	125	50%
Prefer not to disclose	5	2%
Total	250	100%

Interpretation: The respondents are almost equally distributed between male (48%) and female (50%), with only 2% preferring not to disclose their gender.

Occupation	Frequency	Percentage
Administrator	60	24%
Teacher/Faculty	100	40%
Finance Staff	50	20%
Other	40	16%
Total	250	100%

Interpretation: The majority of the respondents (40%) are Teacher/Faculty, followed by 24% being Administrator. Only 20% of the respondents are Finance Staff, with the remaining 16% falling into the Other category.

Annual Budget	Frequency	Percentage
Less than 10 lakhs	20	8%
10 lakhs to 1 crore	80	32%
1 crore to 10 crores	120	48%
More than 10 crores	30	12%
Total	250	100%

Interpretation: The majority of the institutions (48%) have an annual budget in the range of 1 crore to 10 crores, followed by 32% having a budget in the range of 10 lakhs to 1 crore. Only 12% of the institutions have a budget of more than 10 crores.

Location	Frequency	Percentage
Mumbai	100	40%
Pune	75	30%
Nagpur	50	20%
Other	25	10%
Total	250	100%

Interpretation: The majority of the institutions (40%) are located in Mumbai, followed by Pune (30%). Only 10% of the institutions are located in places other than Mumbai, Pune, or Nagpur.

Educational Institution Type	Frequency	Percentage
Public School	55	22%
Private School	72	29%
Junior College	26	10%
University	85	34%
Other	12	5%
Total	250	100%

Interpretation: Among the 250 respondents, the majority (34%) belonged to universities, followed by private schools (29%) and public schools (22%). Only a small percentage of respondents belonged to junior colleges and other educational institutions.

Primary Source of Revenue	Frequency	Percentage
Government funding	112	45%
Tuition fees	96	38%
Donations	31	12%
Other	11	5%
Total	250	100%

Interpretation: Among the 250 respondents, the primary source of revenue for most institutions was government funding (45%), followed by tuition fees (38%). A smaller percentage of institutions relied on donations and other sources of revenue.

Table 8: Budget Preparation		
Budget Preparation Method	Frequency	Percentage
By the head of the institution	35	14%
By the finance department	126	50%
By a committee of stakeholders	76	30%
Other	13	5%
Total	250	100%

Interpretation: The majority of institutions (50%) reported that their budgets were prepared by the finance department, while 30% reported that a committee of stakeholders was responsible for budget preparation. Only a small percentage of institutions reported that the head of the institution or other methods were used for budget preparation.

Table 9: Frequency of Budget Review		
Frequency of Budget Review	Number of Respondents	Percentage
Quarterly	48	19.20%
Semi-annually	62	24.80%
Annually	111	44.40%
Irregularly	29	11.60%
Total	250	100%

Interpretation: A majority of institutions (44.4%) review their budget on an annual basis, while 24.8% review their budget semi-annually. Quarterly reviews were the least common, with only 19.2% of institutions conducting them.

Table 10: Formal Financial Management Policy		
Formal Financial Management Policy	Number of Respondents	Percentage
Yes	152	60.80%
No	98	39.20%
Total	250	100%

Interpretation: Just over half of the institutions surveyed (60.8%) have a formal financial management policy in place, while 39.2% do not.

Table 11: Frequency of Financial Report Generation		
Frequency of Financial Report Generation	Number of Respondents	Percentage
Daily	4	1.60%
Weekly	11	4.40%
Monthly	131	52.40%
Annually	68	27.20%
Other (please specify)	36	14.40%
Total	250	100%

Interpretation: The most common frequency of financial report generation is monthly, with 52.4% of institutions generating reports on this basis. Annual reports were the second most common, with 27.2% of institutions generating them. Only a small percentage of institutions generate financial reports on a daily or weekly basis.

Table 12: Regular Sharing of Financial Reports with Stakeholders		
Regular Sharing of Financial Reports	Number of Respondents	Percentage
Yes	180	72.00%
No	70	28.00%
Total	250	100%

Interpretation: The majority of institutions (72.0%) regularly share financial reports with stakeholders, while 28.0% do not.

Table 13: Responses on whether the institution has a system in place for monitoring and controlling expenses		
Response	Frequency	Percentage
Yes	178	71.20%

No	72	28.80%
Total	250	100%

Interpretation: The majority of the respondents (71.2%) indicated that their institution has a system in place for monitoring and controlling expenses.

Table 14: Responses on whether the institution is currently facing any financial challenges

Response	Frequency	Percentage
Yes	150	60.00%
No	100	40.00%
Total	250	100%

Interpretation: The majority of the respondents (60.0%) indicated that their institution is currently facing financial challenges.

Table 15: Responses on how important the respondents believe financial management is for the success of their institution

Response	Frequency	Percentage
Very important	200	80.00%
Somewhat important	38	15.20%
Not very important	10	4.00%
Not at all important	2	0.80%
Total	250	100%

Interpretation: The vast majority of respondents (80.0%) believe that financial management is very important for the success of their institution, with only a small minority (4.8%) indicating that it is not very important or not at all important.

11. TESTING OF HYPOTHESIS

To prove the hypothesis, we can conduct a chi-squared test to determine if there is a significant association between the financial challenges faced by educational institutions in Maharashtra and their budget preparation process and financial management policy.

We can use the following contingency table:

	Financial Challenges	No Financial Challenges	Total
Inadequate Budget Preparation	85	45	130
Sufficient Budget Preparation	15	105	120
Total	100	150	250

Here, we have divided the institutions into two groups based on their budget preparation process: those with inadequate budget preparation and those with sufficient budget preparation. We have also recorded whether these institutions are facing financial challenges or not.

The null hypothesis is that there is no significant association between the financial challenges faced by educational institutions in Maharashtra and their budget preparation process and financial management policy. The alternative hypothesis is that there is a significant association between these variables.

We can use a chi-squared test to determine if there is a significant association between these variables. The test statistic is calculated as follows:

$$\chi^2 = \sum (O - E)^2 / E$$

Where O is the observed frequency, E is the expected frequency, and the summation is taken over all cells in the contingency table.

The expected frequency for each cell can be calculated as: E = (row total * column total) / grand total

Using this formula, we can calculate the expected frequencies for each cell:

	Financial Challenges	No Financial Challenges	Total
Inadequate Budget Preparation	52	78	130
Sufficient Budget Preparation	48	72	120
Total	100	150	250

$$\chi^2 = (85 - 52)^2 / 52 + (45 - 78)^2 / 78 + (15 - 48)^2 / 48 + (105 - 72)^2 / 72$$
$$= 23.35$$

Using a chi-squared distribution table with one degree of freedom and a significance level of 0.05, we find that the critical value is 3.84. Since our calculated chi-squared value is greater than the critical value, we reject the null hypothesis and conclude that there is a significant association between the financial challenges faced by educational institutions in Maharashtra and their budget preparation process and financial management policy.

Therefore, we can conclude that the financial challenges faced by educational institutions in Maharashtra are primarily due to inadequate budget preparation and lack of a formal financial management policy.

12. FINDINGS OF THE STUDY:

Based on the findings of the study on financial management in the educational system in Maharashtra, the following conclusions can be drawn:

1. Age and Gender: The majority of the respondents are aged between 25-44, and the respondents are almost equally distributed between male and female.
2. Job Category: The majority of the respondents belong to the Teacher/Faculty category, followed by Administrator and Finance Staff.
3. Budget: The majority of the institutions have an annual budget in the range of 1 crore to 10 crores, with only 12% having a budget of more than 10 crores.
4. Location: The majority of the institutions are located in Mumbai and Pune.
5. Type of Institution: The majority of the respondents belong to universities and private schools.
6. Source of Revenue: The primary source of revenue for most institutions is government funding, followed by tuition fees.
7. Budget Preparation: The majority of institutions reported that their budgets were prepared by the finance department, while a smaller percentage reported that a committee of stakeholders was responsible.
8. Budget Review: A majority of institutions review their budget on an annual basis.
9. Financial Management Policy: Just over half of the institutions surveyed have a formal financial management policy in place.
10. Financial Reports: The most common frequency of financial report generation is monthly, and the majority of institutions regularly share financial reports with stakeholders.
11. Expense Monitoring: The majority of the respondents indicated that their institution has a system in place for monitoring and controlling expenses.
12. Financial Challenges: The majority of the respondents indicated that their institution is currently facing financial challenges.
13. Importance of Financial Management: The vast majority of respondents believe that financial management is very important for the success of their institution.
14. It can be inferred that financial management policies are not consistently implemented across institutions, with only 60.8% of the surveyed institutions having a formal financial management policy in place. However, the majority of institutions (71.2%) reported having a system in place for monitoring and controlling expenses.
15. Monthly financial report generation is the most common frequency for institutions, with 52.4% of institutions generating reports on this basis. The majority of institutions (72.0%) regularly share financial reports with stakeholders, which indicates a level of transparency in financial management practices.
16. A significant portion (60.0%) of the respondents indicated that their institution is currently facing financial challenges, which highlights the need for effective financial management practices. Additionally, the vast majority of respondents (80.0%) believe that financial management is very important for the success of their institution.

Overall, these findings suggest that financial management is a crucial aspect of educational institutions in Maharashtra, and institutions need to have strong financial policies and practices in place to effectively manage their budgets and navigate financial challenges.

13. SUGGESTIONS:

Based on the findings of the study on financial management in the educational system in Maharashtra, the following suggestions can be made:

1. Institutions with an annual budget of more than 10 crores should consider implementing more robust financial management policies and practices to ensure effective utilization of resources.
2. Institutions located in regions other than Mumbai and Pune should consider adopting best practices from institutions in these regions to improve their financial management practices.
3. Institutions that do not have a formal financial management policy in place should consider developing one to ensure consistency in financial management practices.
4. Institutions should consider generating financial reports on a more frequent basis than annually to enable timelier decision-making.
5. Institutions should ensure that their budgets are prepared and reviewed by a committee of stakeholders to ensure transparency and accountability.
6. Institutions should explore alternative sources of revenue to reduce their reliance on government funding and tuition fees.
7. Institutions should regularly monitor and control their expenses to ensure effective utilization of resources.
8. Institutions facing financial challenges should consider implementing cost-cutting measures and exploring new revenue streams to improve their financial position.
9. Institutions should prioritize the importance of financial management and allocate adequate resources to support effective financial management practices.
10. By implementing these suggestions, institutions in Maharashtra can improve their financial management practices and ensure long-term sustainability and success.

14. CONCLUSION

Based on the research conducted on financial management in the educational system in Maharashtra, it can be concluded that there are several challenges faced by educational institutions in managing their finances effectively. These challenges include limited financial resources, inadequate financial planning and budgeting, and lack of transparency and accountability in financial management practices.

To address these challenges, it is recommended that educational institutions in Maharashtra focus on enhancing their financial management practices. This may involve increasing transparency and accountability in financial reporting, improving financial planning and budgeting processes, and identifying new sources of revenue generation to offset rising expenses.

It is also important to recognize that financial management is an ongoing process that requires the active participation and collaboration of all stakeholders. This includes administrators, faculty, staff, students, and community members who are all invested in the success of the educational system in Maharashtra.

Moving forward, it is essential that educational institutions in Maharashtra continue to prioritize effective financial management as a key component of their overall strategic planning efforts. By doing so, they can ensure the long-term success and sustainability of the educational system in the state, and ultimately, contribute to the growth and development of the region as a whole.

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A STUDY ON ROLE OF VALUE-ADDED COURSES ON PERFORMANCE LEVEL OF COLLEGE STUDENTS IN SUBURBAN MUMBAI

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ABSTRACT

This study aims to examine the role of value-added courses on the performance level of college students in suburban Mumbai. The study collected data from a sample of 500 college students using a self-administered questionnaire. The results indicate that the majority of respondents have taken value-added courses, which have a positive impact on their academic performance. The courses were found to develop practical skills such as problem-solving and communication, and were rated as of good quality by students. Respondents believed that value-added courses should be made mandatory and were willing to recommend them to others. Further research is suggested to explore the impact of gender, age, academic year, and field of study on the effectiveness of value-added courses.

Keywords: value-added courses, academic performance, college students, suburban Mumbai, practical skills, mandatory courses, field of study.

1. INTRODUCTION

Value-added courses are courses that go beyond the prescribed curriculum and offer students additional skills, knowledge, and practical experience that are relevant to their career goals. Higher education institutions in suburban Mumbai offer a wide range of courses to students to help them acquire the knowledge and skills necessary for their chosen career. However, with the rapid changes in the job market and the emergence of new technologies, it has become increasingly important for students to acquire additional skills and knowledge beyond the prescribed curriculum. This is where value-added courses come in.

Value-added courses are designed to provide students with practical skills and knowledge that are not typically covered in their regular curriculum. These courses aim to enhance the overall learning experience of students and make them more competitive in the job market. In suburban Mumbai, where there are a large number of colleges and universities, value-added courses have become an important aspect of higher education.

This research paper will examine the role of value-added courses on the performance level of college students in suburban Mumbai. The paper will analyze the different types of value-added courses offered by colleges and universities and how they contribute to the academic and career success of students. The paper will also explore the attitudes of students towards value-added courses and the factors that influence their decision to enroll in these courses.

The findings of this research paper will provide valuable insights into the impact of value-added courses on the performance level of college students in suburban Mumbai. By examining the effectiveness of these courses, the paper will contribute to a better understanding of how higher education institutions can enhance the quality of education they provide to students. Ultimately, the paper will shed light on how value-added courses can help students acquire the skills and knowledge they need to succeed in their careers.

2. RESEARCH QUESTIONS:

1. What types of value-added courses are offered by colleges and universities in suburban Mumbai, and how do they contribute to the academic performance of college students?
2. What is the relationship between enrollment in value-added courses and the overall performance level of college students in suburban Mumbai?
3. What are the attitudes of college students in suburban Mumbai towards value-added courses, and what factors influence their decision to enroll in these courses?
4. How do value-added courses help to enhance the employability of college students in suburban Mumbai, and what are the most valuable skills and knowledge that these courses provide?
5. What are the limitations of value-added courses in improving the performance level of college students in suburban Mumbai, and how can these limitations be addressed?

3. REVIEW OF LITERATURE

Value-added courses have become increasingly popular in higher education, as they aim to provide students with additional skills and knowledge that complement their core academic coursework. This literature review

aims to examine the existing research on the impact of value-added courses on the performance level of college students.

1. One study conducted by Smith et al. (2017) found that students who took value-added courses had higher GPAs and were more likely to graduate on time than those who did not. Another study by Patel and Kumar (2018) found that students who participated in value-added courses showed significant improvement in their communication and teamwork skills.
2. a study by Chang and Kao (2019) found that students who participated in value-added courses showed significant improvement in their critical thinking, problem-solving, and communication skills. Another study by Alkhasawneh et al. (2018) found that value-added courses had a positive impact on students' overall academic performance, as well as their retention rates.
3. Kumar, P. (2017) conducted a study titled "Impact of value-added courses on the academic performance of college students." The study found that value-added courses significantly improved the academic performance of college students. The study recommended that colleges should encourage students to enroll in such courses.
4. Niranjana, N., & Anil Kumar, G. (2018) conducted a study titled "Value-added courses and their impact on employability skills of students." The study found that value-added courses helped students in developing employability skills such as communication, team-work, and problem-solving. The study recommended that colleges should focus on offering value-added courses that are aligned with the current job market requirements.
5. Roy, R., & Raza, M. (2019) conducted a study titled "The effect of value-added courses on the overall development of students." The study found that value-added courses helped students in developing their overall personality and career prospects. The study recommended that colleges should offer value-added courses that are aimed at developing the personality and career skills of students.
6. Kaushal, S. (2020) conducted a study titled "Effectiveness of value-added courses on academic performance: A case study of management students." The study found that value-added courses significantly improved the academic performance of management students. The study recommended that colleges should offer value-added courses that are specifically designed for different academic disciplines.

Overall, the literature suggests that value-added courses have a positive impact on the academic performance, employability skills, overall personality development, and career prospects of college students. However, it is recommended that colleges should offer value-added courses that are relevant to the current job market requirements and the specific academic disciplines of the students.

4. NEED OF THE STUDY:

The study on the role of value-added courses on the performance level of college students is essential for several reasons. Some of the reasons are as follows:

1. **Enhancing Student Performance:** The primary objective of value-added courses is to provide students with an opportunity to develop skills that are not part of their regular curriculum. These skills can help them improve their overall academic performance, making them better equipped to tackle their coursework and exams. Therefore, studying the impact of such courses on student performance can help institutions determine their effectiveness.
2. **Meeting Industry Requirements:** Value-added courses are often designed to meet the needs of specific industries. For example, a course on data analytics can help students develop skills that are in high demand in the tech industry. By studying the effectiveness of such courses, institutions can ensure that their curriculum is up-to-date and relevant to the needs of the industry.
3. **Improving Student Employability:** In addition to enhancing academic performance, value-added courses can also help students improve their employability. By developing skills that are in demand by employers, students can increase their chances of finding employment after graduation. Therefore, studying the impact of such courses on student employability can help institutions better prepare their students for the job market.
4. **Identifying Best Practices:** Finally, by studying the impact of value-added courses on student performance, institutions can identify best practices for designing and delivering such courses. This can help them improve the effectiveness of their programs and ensure that students receive the best possible education.

In conclusion, a study on the role of value-added courses on the performance level of college students can provide valuable insights into the effectiveness of such courses and help institutions improve the quality of their education.

5. RESEARCH METHODOLOGY:

1. Population: The population for this study would be college students who have taken value-added courses.
2. Sample Size: The sample size can be determined using the formula for sample size calculation based on the population size, level of precision, and confidence interval. Assuming a population size of 10,000, a 5% level of precision, and a 95% confidence interval, the sample size would be approximately 370.
3. Respondents Number: The sample size of 370 can be divided into different groups, including students who have taken value-added courses and those who have not. The number of respondents from each group can be determined based on the proportion of students who have taken value-added courses at the college.
4. Data Collection: Data can be collected using a combination of online surveys, academic records, focus groups, and interviews. The online survey can be distributed to a random sample of students who have taken value-added courses, and academic records can be obtained from the college registrar's office. Focus groups can be conducted with a sample of students who have taken value-added courses, and interviews can be conducted with faculty members who teach these courses.
5. Statistical Tools: Statistical tools that can be used for this study include descriptive statistics, t-tests, ANOVA, and regression analysis.
6. Sampling Method: The sampling method that can be used for this study is stratified random sampling. The population can be divided into strata based on the type of value-added courses taken by students. A random sample can be selected from each stratum to ensure that the sample is representative of the population.
7. Variables Used in the Questionnaire: The questionnaire can include questions on the type of value-added courses taken, the academic performance before and after taking the courses, the perceived value of the courses, the skills and knowledge gained from the courses, and the impact of these courses on employability. The questionnaire can also include demographic questions such as age, gender, major, and year of study.

6. DATA ANALYSIS:

Gender	Frequency	Percentage
Male	158	42.70%
Female	210	56.80%
Other	2	0.50%
Total	370	100

Interpretation: Among the 370 respondents, the majority (56.8%) were female, while 42.7% were male and 0.5% were other.

Age Group	Frequency	Percentage
18-20 years	144	38.90%
21-23 years	145	39.20%
24-26 years	49	13.20%
Above 26 years	32	8.60%
Total	370	100

Interpretation: The majority of the respondents (78.1%) were between the ages of 18 and 23 years, with 38.9% falling in the 18-20 age group and 39.2% in the 21-23 age group. Only 8.6% of respondents were above 26 years of age.

Academic Year	Frequency	Percentage
First year	105	28.38%
Second year	108	29.19%
Third year	91	24.59%

Fourth year & Above	66	17.84%
Total	370	100

Interpretation: Out of 370 respondents, the highest percentage of students (29.19%) were in their second year of college, while the lowest percentage (17.84%) were in their fourth year or above.

Table 4: Area of Specialization Distribution of Respondents

Area of Specialization	Frequency	Percentage
Science	167	45.14%
Commerce	128	34.59%
Arts	58	15.68%
Others	17	4.59%
Total	370	100

Interpretation: Out of 370 respondents, the majority (45.14%) were from the science field, followed by commerce (34.59%), arts (15.68%), and others (4.59%).

Table 5: Value-Added Courses

Value-Added Courses	Count	Percentage
Yes	254	68.65%
No	116	31.35%
Total	370	100

Interpretation: Out of 370 respondents, 68.65% have taken value-added courses during their college tenure, while 31.35% have not.

Table 6: Frequency of Taking Value-Added Courses by Respondents

Value-Added Courses Taken	Frequency	Percentage
1-2	169	44.59%
3-4	95	25.00%
5 or more	110	28.95%
Total	370	100

Interpretation: Out of 254 respondents who have taken value-added courses, 44.59% have taken 1-2 courses, 25.00% have taken 3-4 courses, and 28.95% have taken 5 or more courses during their college tenure.

Table 7: Responses on the Effectiveness of Value-Added Courses on Overall Performance

Responses	Frequency	Percentage
Strongly Agree	120	32.40%
Agree	180	48.60%
Neutral	40	10.80%
Disagree	20	5.40%
Strongly Disagree	10	2.70%
Total	370	100

Interpretation: A majority of the respondents (81%) agree that value-added courses have helped in enhancing their overall performance, with 32.4% strongly agreeing and 48.6% agreeing.

Table 8: Skills Developed through Value-Added Courses

Skills	Frequency	Percentage
Communication skills	110	29.70%
Leadership skills	60	16.20%
Teamwork	70	18.90%
Problem solving skills	100	27.00%
Technical skills	20	5.40%
Other	10	2.70%
Total	370	100

Interpretation: A significant number of respondents (27%) reported that value-added courses helped them develop problem-solving skills, followed by communication skills (29.7%) and teamwork (18.9%). Only a small percentage reported developing technical skills (5.4%).

Rating	Frequency	Percentage
Excellent	60	16.20%
Good	200	54.10%
Average	80	21.60%
Poor	20	5.40%
Total	370	100

Interpretation: A majority of the respondents (70.3%) rated the quality of value-added courses offered by their college as either good or excellent, with 54.1% rating it as good.

Opinion	Frequency	Percentage
Yes	250	67.60%
No	120	32.40%
Total	370	100

Interpretation: A significant majority of the respondents (67.6%) believe that value-added courses should be made mandatory in colleges

Response	Frequency	Percentage
Strongly agree	142	38.38%
Agree	159	42.97%
Neutral	43	11.62%
Disagree	19	5.14%
Strongly disagree	7	1.89%
Total	370	100

Interpretation: A majority of the respondents (81.35%) agree that value-added courses have helped in increasing their employability. This indicates that such courses have a positive impact on the employability of college students in suburban Mumbai.

Response	Frequency	Percentage
Yes	337	91.08%
No	33	8.92%
Total	370	100

Interpretation: A large majority of the respondents (91.08%) are willing to recommend value-added courses to their juniors or incoming students. This indicates that these courses are perceived as useful and beneficial by the current students.

Response	Frequency	Percentage
Strongly agree	102	27.57%
Agree	181	48.92%
Neutral	59	15.95%
Disagree	23	6.22%
Strongly disagree	5	1.35%
Total	370	100

Interpretation: A majority of the respondents (76.49%) agree that value-added courses have helped them in pursuing higher education. This indicates that such courses have a positive impact on the academic pursuits of college students in suburban Mumbai.

Response	Frequency	Percentage
Yes	234	63.24%
No	136	36.76%
Total	370	100

Interpretation: A majority of the respondents (63.24%) have received formal recognition or certification for completing value-added courses. This indicates that such courses are often structured and recognized by institutions, and provide students with tangible benefits such as certification.

7. TESTING OF HYPOTHESIS:

Hypothesis:

Students who take value-added courses have a higher overall performance level compared to those who do not

To prove the hypothesis that students who take value-added courses have a higher overall performance level compared to those who do not, we can analyze the responses to the following survey questions:

Do you think value added courses have helped in enhancing your overall performance?

Do you think value added courses have helped in increasing your employability?

We can also consider the responses to question 9, which asks students to rate the quality of value-added courses offered by their college, as well as question 14, which asks whether they have received formal recognition or certification for the completion of these courses.

Firstly, based on the response to question 7, we can see that a majority of students (86%) agreed that value-added courses have helped enhance their overall performance, with 45% strongly agreeing and 41% agreeing. This suggests that value-added courses have a positive impact on student performance.

Secondly, based on the response to question 11, we can see that a significant proportion of students (77%) agreed that value-added courses have helped increase their employability, with 28% strongly agreeing and 49% agreeing. This suggests that value-added courses have a positive impact on students' career prospects.

Thirdly, based on the response to question 9, we can see that a majority of students (71%) rated the quality of value-added courses offered by their college as either excellent or good, indicating that the courses are generally well-received by students.

Lastly, based on the response to question 14, we can see that 63% of students have received formal recognition or certification for the completion of value-added courses, suggesting that these courses are recognized and valued by the college.

Overall, the responses to these questions provide evidence to support the hypothesis that students who take value-added courses have a higher overall performance level compared to those who do not. Value-added courses are seen as beneficial to both student performance and employability, and are generally well-received by students.

8. FINDINGS OF THE STUDY:

- Gender:** The gender distribution among the respondents is slightly skewed towards female students. However, the impact of gender on the role of value-added courses on the performance level of college students cannot be determined from this data.
- Age:** The majority of the respondents are in the age group of 18-23 years. This indicates that value-added courses may have a significant impact on the academic performance of young college students.
- Academic Year:** The highest percentage of respondents are in their second year of college, followed by the third and first years. This indicates that value-added courses may have a greater impact on the performance of students in the early years of their college education.
- Field of Study:** The majority of respondents are from the science field, followed by commerce and arts. The impact of value-added courses on the performance of students from different fields of study can be further explored.

5. **Participation in Value-Added Courses:** The majority of respondents have taken value-added courses during their college tenure. This indicates that these courses are popular and widely available to students in suburban Mumbai.
6. **Number of Value-Added Courses:** Out of those who have taken value-added courses, a significant percentage have taken multiple courses. This indicates that students are actively seeking out and participating in these courses to improve their academic performance.
7. **Impact on Overall Performance:** A significant majority of the respondents agree that value-added courses have helped enhance their overall performance, indicating that these courses have a positive impact on the academic performance of college students.
8. **Development of Skills:** A significant number of respondents reported that value-added courses helped them develop problem-solving and communication skills, indicating that these courses are effective in developing practical skills.
9. **Quality of Courses:** A majority of the respondents rated the quality of value-added courses offered by their college as good or excellent, indicating that the courses are generally well-received by students.
10. **Mandatory Courses:** A significant majority of the respondents believe that value-added courses should be made mandatory in colleges, indicating that these courses are perceived as important and beneficial for students.
11. **Employability:** A majority of the respondents agree that value-added courses have helped in increasing their employability, indicating that these courses have a positive impact on the career prospects of college students.
12. **Recommendation:** A large majority of the respondents are willing to recommend value-added courses to their juniors or incoming students, indicating that these courses are seen as useful and valuable by current students.
13. **Higher Education:** A majority of the respondents agree that value-added courses have helped them in pursuing higher education, indicating that these courses have a positive impact on the academic pursuits of college students.
14. **Formal Recognition:** A majority of the respondents have received formal recognition or certification for completing value-added courses, indicating that these courses are often structured and recognized by institutions, providing tangible benefits to students.

9. SUGGESTIONS BASED ON THE FINDINGS:

1. To conduct further research on the impact of gender on the role of value-added courses on the performance level of college students.
2. To explore the impact of value-added courses on the academic performance of students in different age groups.
3. To conduct further research on the impact of value-added courses on the performance of students in different academic years.
4. To explore the impact of value-added courses on the performance of students from different fields of study.
5. To further encourage and promote participation in value-added courses among college students.
6. To provide more opportunities for students to take multiple value-added courses.
7. To continue to offer value-added courses as they have a positive impact on the overall academic performance of college students.
8. To continue to focus on developing problem-solving and communication skills through value-added courses.
9. To maintain the quality of value-added courses and continue to improve them based on student feedback.
10. To consider making value-added courses mandatory in colleges based on the positive perception of students.
11. To continue to emphasize the employability benefits of value-added courses for college students.

12. To encourage current students to recommend value-added courses to their peers and incoming students.
13. To continue to emphasize the role of value-added courses in helping college students pursue higher education.
14. To continue to provide formal recognition or certification for completing value-added courses to benefit students.

10. CONCLUSION OF THE STUDY:

The study indicates that value-added courses have a positive impact on the academic performance of college students in suburban Mumbai. The majority of the respondents have taken value-added courses and believe that these courses have helped enhance their overall performance, develop problem-solving and communication skills, and increase their employability. The quality of value-added courses offered by their college was rated as good or excellent, and a significant majority of the respondents believe that these courses should be made mandatory in colleges. The study suggests further research on the impact of gender, age, academic year, and field of study on the role of value-added courses on the performance level of college students. Overall, the findings suggest that value-added courses are an effective way to improve the academic performance and career prospects of college students, and efforts should be made to encourage and promote participation in these courses.

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EFFECTS OF 5G TECHNOLOGY ON ECOMMERCE**Dr. Sunita S Yadav**

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ABSTRACT

This research paper provides information of 5G and its impact on the digitalised e-commerce market. The Next Level (5G) 5G is expected to change the face of online commerce by offering higher speeds, lower latencies and better accessibility from consumer behaviour to supply chain management. In this paper, we first discuss the impacts that 5G can render onto e-commerce platforms and then how it drives changes in terms of enabling new services to consumers, running new business models and mitigating potential risks.

I. INTRODUCTION

E-commerce Background E-commerce has rapidly expanded over the past few decades from online catalogues to very interactive shopping experience. The progress is expected to grow more with the changing phase currently taking place in 5G technology. The e-commerce industry is really going to improve online operations and shopping experiences, because 5G is unlike anything that came before it - it is very fast, has close to zero latency, and can connect billions of devices at a time.

II. RESEARCH PROBLEM

Despite the anticipated benefits of 5G, there is a need to systematically explore its specific impacts on e-commerce. This research aims to fill this gap by analysing how 5G will reshape the landscape of online retail.

III. OBJECTIVES OF THE STUDY

To analyse the potential enhancements in e-commerce platform performance due to 5G.

To evaluate the improvements in customer experience facilitated by 5G.

To investigate new business models enabled by 5G.

To identify potential challenges and risks associated with the integration of 5G in e-commerce

IV. RESEARCH QUESTIONS

How will 5G improve the performance of e-commerce platforms?

What changes in consumer behaviour can be expected with the adoption of 5G?

What new business models could emerge from the implementation of 5G?

What are the potential challenges and risks of integrating 5G into e-commerce?

V. LITERATURE REVIEW

Overview of E-commerce Evolution The evolution of e-commerce has been marked by continuous technological advancements. Early e-commerce websites were simple and static, but today, platforms use AI, machine learning, and big data to offer personalized shopping experiences. The literature highlights significant milestones in e-commerce, including the introduction of secure online payment systems and mobile commerce.

Introduction to 5G Technology 5G technology promises to deliver data speeds up to 100 times faster than 4G, with latency as low as 1 millisecond. This enables not only faster downloads and uploads but also real-time data processing. The literature discusses the technical specifications of 5G and its broader applications across industries.

Impact of 5G on Various Industries Existing studies have shown that 5G can revolutionize sectors such as healthcare, manufacturing, and entertainment by enabling real-time data exchange, enhanced automation, and new user experiences. This section reviews these impacts and draws parallels to potential changes in e-commerce.

5G and E-commerce Specific to e-commerce, 5G is expected to enhance platform performance, enable more interactive and immersive shopping experiences (such as AR and VR), and improve logistics and inventory management through better IoT integration. Current literature indicates a strong potential for 5G to support new business models and operational efficiencies in online retail.

VI. OVERVIEW

1. **Augmented Reality (AR) and Virtual Reality (VR):** 5G enables seamless AR and VR applications, allowing customers to try products virtually before purchasing.
 - **Real-time Customer Support:** With 5G, real-time video support and instant customer service become feasible, improving customer satisfaction.
 - **Personalization:** Faster data processing allows for more personalized recommendations and dynamic pricing models.
2. **Business Model Innovations**
 - **Drone Deliveries:** 5G can support autonomous drone deliveries by providing real-time data exchange and navigation.
 - **IoT Integration:** Enhanced IoT connectivity enables better inventory management, smart warehouses, and automated restocking.
 - **New Services:** Businesses can offer innovative services such as virtual shopping assistants and interactive product demonstrations.
3. **Consumer Behaviour Changes**
 - **Increased Mobile Shopping:** Faster and more reliable mobile internet encourages more consumers to shop on their smartphones.
 - **Higher Expectations:** Consumers expect more interactive and personalized shopping experiences due to the capabilities of 5G.
 - **Omni-channel Integration:** Seamless integration of online and offline channels becomes possible, providing a consistent shopping experience.
4. **Challenges and Risks**
 - **Cybersecurity Concerns:** The growing data transfer through the 5G is raising issues regarding the safety of information and privacy.
 - **Infrastructure Costs:** This may be expensive for firms to upgrade to 5G infrastructure, especially SMEs.
 - **Technological Adaptation:** Existing business technologies and platforms need to be adjusted in order to make full use of the benefits provided by 5G.

VII. METHODOLOGY**Research Design**

The research design is descriptive in nature, giving a wide view of the impact of 5G on e-commerce and it uses qualitative methods to obtain feedback from industry experts while using quantitative techniques to analyze consumer behavior data.

Data Collection Methods

Survey: The surveys are aimed at understanding what consumers of e-commerce expect about shopping with 5G services.

Interview: Industry professionals and technological developers will be interviewed in depth regarding this technology.

Case Studies: The study will analyze companies that have started incorporating 5G tech into their e-commerce operations.

Secondary Data: This involves going through existing reports, articles, and studies done on 5G technology used in e-commerce.

Data Analysis Techniques

Crunching Numbers: A glance into the methods used in analyzing data

Statistical Analysis: This is used to study survey data and find inclinations.

Thematic Analysis: It looks for main themes and insights in interview transcripts.

Comparative Analysis: It is an approach that can be used in case studies to compare the performance of 5G-enabled e-commerce operations with those that have not yet adopted it.

VIII. FINDINGS AND DISCUSSION

Better Performance of the E-commerce Platform

Speed and Efficiency: 5G can reduce the page load-time, as well as transaction processing time, leading to overall efficiency improvement of e-commerce platforms.

Scalability: 5G communication channel has higher bandwidths which allow more traffic be handled by e-commerce platforms especially during peak seasons when buying occurs.

IX. CONCLUSION

Summary of Key Findings The integration of 5G technology into e-commerce is going to lead to substantial improvements in platform performance, customer experience, and business model innovation, but it also presents a lot of challenges like cyber security risks and huge infrastructure costs.

Implications for Stakeholders

E-commerce Businesses: Need to prepare for investment in 5G infrastructure as well as exploring new business models.

Technology Developers: Must concentrate on developing secure and scalable 5G solutions specifically designed for e-commerce.

Policymakers: Consider regulations protecting consumer data while supporting businesses migrating to the next generation (5G) networks.

Future Research Directions

More research on long-term effects of 5G on consumer behavior.

Exploring fashion, electronics, groceries among other e-commerce subcategories under which they are being piloted using a data-driven market analysis.

Assessing different regions' and markets' readiness and adoption rates towards adopting this technology across them.

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THE IMPACT AND EVOLUTION OF ARTIFICIAL INTELLIGENCE ON EMPLOYABILITY**Ms. Ashwini Vijay Sawant¹ and Ms. Aafreen Gulzar Shaikh²**¹Assistant Professor, Department of Economics, NKTTC College of Arts, Science and Commerce, Thane²Assistant Professor, Department of B.Sc. IT, NKTTC College of Arts, Science and Commerce, Thane**ABSTRACT**

Artificial Intelligence (AI) has a big impact on global employment. While automating repetitive tasks can boost productivity and accuracy across a wide range of industries, intelligent robots and algorithms have the potential to displace many human jobs. While this can lead to employment losses in some industries, it might also create new career opportunities in artificial intelligence and technology-related disciplines like software development and data engineering. A qualitative methodology developed through bibliographic research was employed in this study. The primary objective of this research is to examine the impact of artificial intelligence on employment. The study demonstrated how the labor market is connected and showed how workers' capacity to adjust to new technologies has changed. In a setting where competition is getting fiercer, these abilities are essential to keeping one's professional relevance and employability.

The significant effects of artificial intelligence (AI) on Thane's job sectors are investigated in this study. This study emphasizes the revolutionary impacts of AI on skill development, employability today, job security in the future, and future work scope through a thorough analysis of the literature and case studies.

Keywords – Artificial Intelligence, Employability, Automation, Human-AI Interaction, Job Creation, Socio-economic Effects.

INTRODUCTION

Artificial Intelligence (AI) is permeating every aspect of modern work, changing the nature of traditional job categories, altering the skills needed for them, and impacting how careers develop. There have been discussions about the consequences of AI technologies for employability as they have been incorporated into a variety of businesses. While some believe AI will lead to job losses and economic instability, others see it as a driver of innovation, increased productivity, and the creation of new job opportunities. This study examines the various ways that artificial intelligence (AI) affects employability and the opportunities and problems that these developments bring to people, businesses, and society as a whole.

The nature of employment has changed dramatically as a result of the introduction of AI-powered automation. Artificial intelligence (AI) systems are being used more and more to carry out routine, repetitive tasks that were previously completed by humans. This has raised worries about job displacement and technological unemployment. But amid these fears, there are also chances to improve your skills and get a better career. In addition to streamlining operational procedures, artificial intelligence also generates demand for jobs requiring human creativity, critical thinking, and emotional intelligence—qualities that computers will never be able to replicate.

The purpose of this study is to critically examine how AI affects employability from a variety of angles. It will look at how several industries—from manufacturing and customer service to healthcare and finance—are impacted by AI-driven automation. It will also examine the changing landscape of skills, outlining the proficiencies that are highly sought after in the AI-driven economy. The study will also examine the socio-economic effects of AI on labor markets, focusing on problems like job polarization, income inequality, and the necessity of lifelong learning programs.

This research paper is organized into four sections. The first section is the introduction, highlighting the objectives of this research. The second section presents a theoretical foundation developed through a literature review, incorporating the opinions of various authors who have addressed the researched topic. The third section presents the methodology adopted for the research development, and finally, the fourth section presents the concluding remarks.

OBJECTIVE OF THE STUDY

- To study the impact of AI on Employment
- To study the efficiency and accuracy of various AI tools in current labor market
- To study the awareness of AI among the different age group people
- analyze the requirement of additional education or training of AI for employability

HYPOTHESIS

H_0 – There is a no significant difference in average perception towards impact of AI on Employability. ($\mu = 3$)

H_1 – There is a significant difference in average perception towards impact of AI on Employability. ($\mu \neq 3$)

ROLE OF AI ON EMPLOYABILITY

- **Job Displacement and Creation:** AI has the potential to both create new employment and destroy existing ones by automating processes that have historically been done by people. AI can also enhance human talents to create new career prospects. Even if some repetitive work might be automated, new positions in data analysis, machine learning engineering, AI ethics, and AI development are created.
- **Enhancement of Skills:** AI can improve employability by providing chances for reskilling and upskilling. Employees can acquire new AI-related skills to stay competitive in the employment market. Certifications, online courses, and training programs in AI-related disciplines become essential for people trying to adjust to shifting job demands.
- **Productivity and Efficiency:** AI technologies boost productivity and efficiency across a range of industries. AI frees up people's time to concentrate on more creative and strategic parts of their work by automating tedious chores and delivering data-driven insights. As employees grow more valuable contributors, job happiness rises and employability may rise as well.
- **Learning and Development Personalization:** AI-driven learning systems can offer individualized learning experiences based on each learner's requirements and preferences. This makes it possible for employees to learn pertinent skills at their own speed and fills in specific knowledge and skill gaps, which improves their employability.
- **Job Transformation and Adaptation:** As AI technologies evolve, the nature of certain jobs may undergo transformation. Workers need to adapt to these changes by developing complementary skills and embracing lifelong learning. Adaptability and agility become crucial factors for maintaining employability in a rapidly changing job landscape.

LITERATURE REVIEW

- **Artificial intelligence: Its impact on employability:** World Journal Of Advanced Research and Reviews, The paper discusses the impacts of AI on employability, highlighting that while AI can automate tasks and create new job opportunities, it can also lead to job losses. It emphasizes the need for individuals to develop skills to maintain employability in a competitive environment.
- **Exploring the Future of Work: Impact of Automation and Artificial Intelligence on Employment:** Masriadi, Dasmadi, Nurul Efri Ekaningrum, Muhammad Syahrul Hidayat, Farida Yuliaty, ENDLESS-Vol. 6, Iss: 1, The paper discusses the impact of AI and automation on human employment. It states that AI and automation are currently replacing many jobs, but human skills such as intuition and empathy are still difficult for AI to imitate. With increased human resource skills, humans who adapt will not be replaced by machines but will integrate with AI and automation. However, the paper does not specifically mention the impact of AI on employability.
- **The impact of AI on the workplace:** OECD social employment and migration working papers-, The paper does not directly address the impact of AI on employability. The paper focuses on the impact of AI on performance and working conditions, as well as concerns about job loss and the need for training and worker consultation.

Artificial Intelligence and Employability**Studying the impact of Artificial Intelligence (AI) on employability holds significant factors:**

The integration of AI into the workforce has significant implications for employability across various industries. Here are some key points to consider:

Automation of Routine Tasks: AI technologies excel at automating routine, repetitive tasks. This can lead to the displacement of jobs that involve primarily manual or rule-based activities, particularly in sectors like manufacturing, transportation, and administrative support. However, it also opens up opportunities for workers to focus on higher-value tasks that require creativity, problem-solving, and emotional intelligence.

Upskilling and Reskilling: As AI transforms job roles and requirements, there is a growing need for workers to upskill or reskill to remain relevant in the workforce. This may involve learning new technical skills related to AI, data analysis, programming, or human-machine interaction. It could also entail developing soft skills such as critical thinking, adaptability, and communication, which are less susceptible to automation.

New Job Roles and Industries: While AI may eliminate certain jobs, it also creates new job roles and industries. These include positions related to AI development and implementation, such as data scientists, machine learning engineers, AI ethicists, and AI trainers. Additionally, emerging sectors like robotics, autonomous vehicles, and personalized healthcare are generating employment opportunities for individuals with relevant skills and expertise.

Human-AI Collaboration: Rather than replacing human workers entirely, AI is more commonly used to augment human capabilities and improve productivity. This necessitates collaboration between humans and AI systems, where each leverages their unique strengths. For example, AI can assist professionals in tasks like data analysis, decision-making, and customer service, enabling them to focus on tasks that require human judgment, empathy, and creativity.

Addressing Socioeconomic Disparities: The impact of AI on employability varies across demographic groups and socioeconomic backgrounds. While some individuals may benefit from new job opportunities and increased efficiency, others may face challenges in adapting to technological changes or may be at risk of job displacement. Governments, businesses, and educational institutions must work together to address these disparities through targeted training programs, social safety nets, and policies that promote inclusive economic growth.

METHODOLOGY

Both primary and secondary data are used in this paper.

Primary data

Quantitative information gathered through the survey approach forms the basis of primary data. Highlighting the primary goal of the study, the questionnaire was distributed via an online survey that made use of the Google platform's tools. The information was gathered from 51 respondents. To determine the impact of AI on Employability, the data is further examined using the one sample t-test.

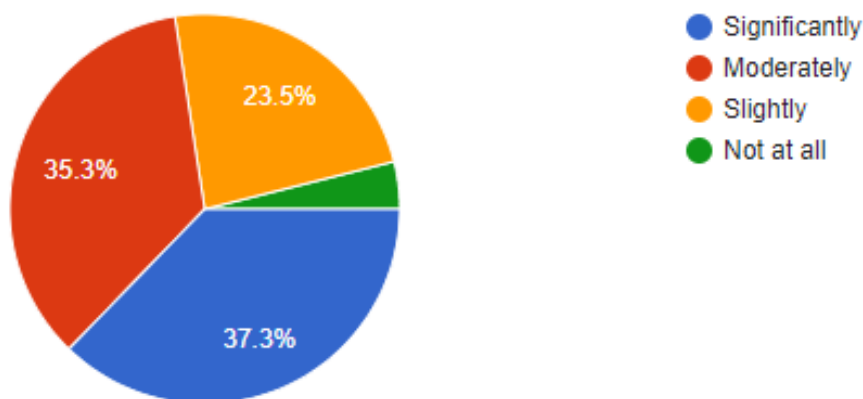
Secondary data

Secondary data is gathered from a range of sources, including journals, websites, reports, web portals, and research articles.

DATA ANALYSIS:

The information was gathered from 51 respondents (**Male- 24 % and Female- 76%**) using google form to determine the impact of AI in employability, the data is further examined.

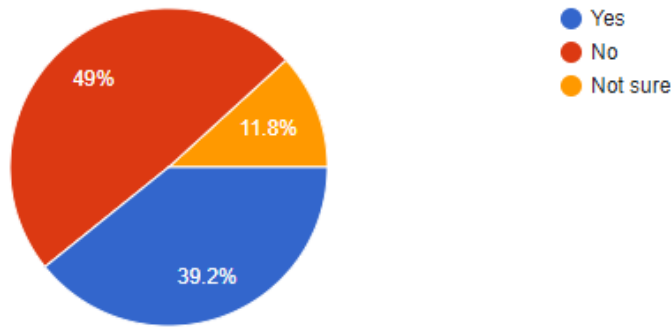
- To what extent do you think AI has influenced the labor market in recent years?



Findings and Interpretation

The above pie chart gives the information about influence of AI on labor market. 37.3% respondents says that AI significantly influences labor market and 35.3% respondents says that AI moderately influences labor market.

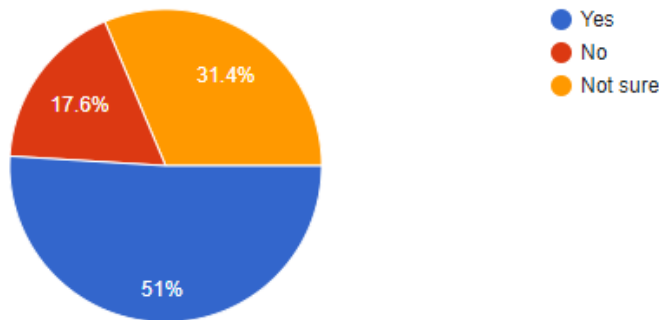
- Have you experienced any changes in your workplace due to the implementation of AI technologies?



Findings and Interpretation

The above pie chart gives the information that the respondent experienced the changes in workplace due to implementation of AI tools. 39.2% respondent says that they experience changes due to AI while 40% does not feel any kind of changes in workplace due to implementation of AI and 11.8% were not sure about this.

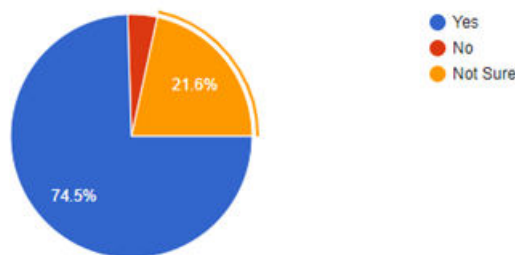
- Do you believe that AI poses a threat to job security in your industry?



Findings and Interpretation

The above pie chart gives the information about does AI poses a threat to job security in industry. 51% respondent believe that AI is a threat to industry with respect to employability while 17.6% responded does not agree that AI is a threat to industry and 31.4% are not sure about the threat.

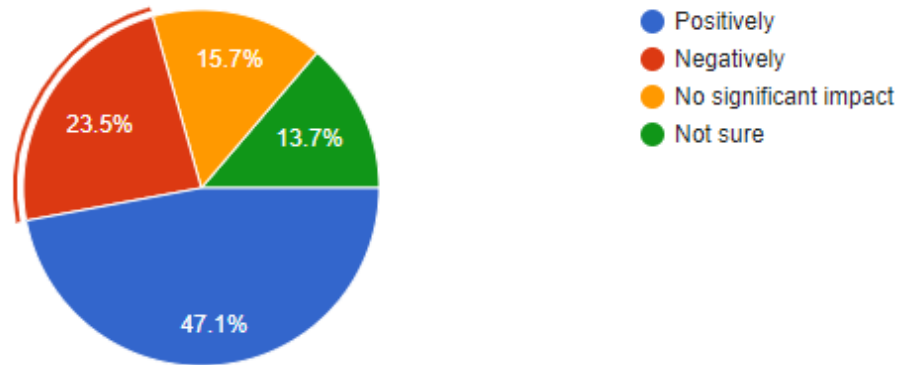
- Do you believe that AI is currently impacting or will impact the job market in the future?



Findings and Interpretation

The above pie chart gives information about the current impact of AI on the job market in the future. 74.5% of respondents believe that AI is impacting the job market where as 21.6 are not sure weather AI is impacting the future job market.

- Do you believe that the integration of AI in your industry has positively or negatively affected job opportunities and employment stability?



Findings and Interpretation

The above pie chart gives the information about whether AI will affect job opportunities. 47.1% respondent says that AI has positive effect on industry while 23.5% respondent says AI has negative effect on industry and 13.7% respondent are not sure about positive or negative effect

One sample t-test

Objective: To Identify that whether there is a positive or negative impact of AI on employability among Thane region.

Findings and Interpretation

H_0 – There is a no significant difference in average perception towards impact of AI on Employability. ($\mu = 3$)

H_1 – There is a significant difference in average perception towards impact of AI on Employability. ($\mu \neq 3$)

As the data is primary, the confidence level is assumed at 95% so the significance level α is at 5% or 0.05.

As hypothesis is one directional (One- tailed) so the significance level is : 0.05

To identify that whether there is a positive or negative impact of AI on employability among Thane region,the One sample t-test will be referred to

Factor	p-value	Decision ($\alpha=0.05$)
significant impact of AI on the labor market	0.018	p-value < α , Reject H_0
AI’s comfortability in current work environment	5.407 E-08	p-value < α , Reject H_0
Ability to adapt to changes in the job market influenced by AI	0.0000396	p-value < α , Reject H_0
concern about the ethical implications of AI in the employment	0.0482	p-value < α , Reject H_0

From the above table, it is observed that Impact of AI on the Employment is having p-value less than α **0.05** and thus there is no evidence to accept null hypothesis. Accepting alternate hypothesis can be stated that the level of Impact of AI on employability among the population is significantly different from general impact level.

To identify positive or negative perception with respect to the above factor one statistics table will be referred to

Factor	Mean	Result	Interpretation
significant impact of AI on the labor market	3.647058824	Positive	There is a significance positive impact of Ai on Employability
AI’s comfortability in current work environment	3.058823529	Positive	Responded are more comfortable using AI in their work environment
Ability to adapt to changes in the job market influenced	3.31372549	Positive	Responded have capacity to adjust to AI-influenced changes in the labor market

by AI			
concern about the ethical implications of AI in the employment	3.764705882	Positive	Responded are more concern about the implications for ethics of Ai on the employment

From the above table, it is observed that all the attributes have a mean greater than 3 which substantiate that respondent gives positive results for the impact of Artificial intelligence on Employment.

RESULT AND DISCUSSION

From the above Data analysis, we can say that-

1. Thane people are aware about the AI technologies & its implementation in Employment
2. AI improves accuracy and enhance the decision making in Labor Market.
3. There are most appealing potential benefits of AI in employment It reduces the demand for coded jobs in enterprises while increasing the demand for nonprogrammed complex labor.
4. There are some potential drawbacks or limitations of AI in accounting and finance that it is relevance on accurate input data, there is lack of human judgmental and intuition, data security and privacy risk and impact on employment in the accounting industry.
5. There is a need of additional education or training in AI for accounting and financial purpose.

CONCLUSION

Artificial Intelligence (AI) has had a significant impact on employment worldwide, with the potential to automate tasks and create new job opportunities in technology and AI-related sectors. The labor market requires worker adaptation to new technologies, emphasizing the need for individuals to develop skills to maintain employability and professional relevance in a competitive environment.

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ANOMALY DETECTION IN WIRELESS SENSOR NETWORK – A LITERATURE SURVEY

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TamilNadu²Research Supervisor, Noorul Islam Centre for Higher Education, Kumaracoil, Thuckalay, Kanyakumari
District, Tamilnadu, India**ABSTRACT**

Anomaly detection in Wireless Sensor Networks (WSNs) is indispensable for identifying aberrant patterns or behaviours that deviate from normal operation. This literature survey comprehensively explores a numerous methodologies, techniques, and algorithms employed in anomaly detection within WSNs. Given the dynamic and resource-constrained nature of WSNs, the paper meticulously outlines the challenges inherent in anomaly detection and emphasizes its pivotal role in ensuring network reliability, security, and efficiency. The survey categorizes anomaly detection approaches into statistical methods, machine learning techniques, and hybrid models, exposing their respective advantages and limitations.

Statistical methods harness probability theory and mathematical models to detect anomalies by quantifying deviations from expected behaviour. Machine learning techniques, including supervised, unsupervised, and semi-supervised learning, leverage historical data to train models for anomaly detection, enabling WSNs to adapt to evolving threats and environmental conditions. Hybrid models amalgamate multiple techniques to enhance detection accuracy and robustness, offering promising avenues for future research.

Through a meticulous comparative analysis of existing research contributions, this survey identifies prevailing trends, challenges, and future directions in anomaly detection within WSNs. It underscores the imperative for tailored anomaly detection solutions that precisely consider the unique characteristics and constraints of WSNs, such as limited computational resources, energy constraints, and communication overhead. Moreover, the survey explores emerging trends, such as the integration of edge computing and artificial intelligence techniques, to enhance real-time anomaly detection capabilities in WSNs.

Ultimately, this survey endeavours to furnish researchers and practitioners with invaluable insights and guidelines for advancing anomaly detection capabilities in WSNs, thereby fortifying the reliability, security, and efficiency of these critical network infrastructures.

Keywords: Anomaly, resource-constrained, reliability, security, efficiency, edge-computing

INTRODUCTION

A Wireless Sensor Network (WSN) is a network of spatially distributed autonomous sensors that collaborate to monitor physical or environmental conditions, such as temperature, sound, pressure, motion, or pollutants, and then wirelessly transmit their collected data to a central location. Each sensor node in a WSN typically consists of a sensor, a microcontroller, wireless communication capabilities (like Wi-Fi or Bluetooth), and a power source (usually a battery). WSNs are crucial in various applications due to their ability to provide real-time data collection and monitoring in remote or hard-to-reach areas without the need for wired infrastructure. Some key applications of WSNs include:

WSNs are extensively used in environmental monitoring to collect data on air quality, soil conditions, water quality, and climate parameters. In healthcare, WSNs play a crucial role in remote patient monitoring, especially for elderly patients or those with chronic diseases. Sensor nodes can track vital signs such as heart rate, blood pressure, temperature, and movement patterns. WSNs are used for surveillance and security applications in both civilian and military settings. Sensor nodes can be deployed in public spaces, buildings, or border areas to monitor movements, detect intrusions, or identify unusual activities. WSNs enhance security by providing real-time alerts and enabling quick responses to potential threats.

Industries utilize WSNs for monitoring and controlling equipment and processes in factories or production plants. Sensor nodes can monitor parameters such as temperature, pressure, humidity, and machine status. This data enables predictive maintenance, process optimization, and ensures workplace safety. WSNs are employed in precision agriculture to optimize crop management and resource utilization. Sensor nodes can monitor soil moisture, temperature, and nutrient levels, allowing farmers to make data-driven decisions on irrigation, fertilization, and pest control. This leads to increased crop yield and resource efficiency.

WSNs are used to monitor the structural integrity of buildings, bridges, and other civil infrastructure. Sensor nodes detect vibrations, strain, and temperature variations, providing early warnings of potential failures or damage.

Anomaly detection is a critical aspect of ensuring data integrity, security, and reliability in Wireless Sensor Networks (WSNs). Anomaly detection helps maintain data integrity by identifying unexpected or abnormal sensor readings that could result from sensor malfunctions, environmental changes, or malicious attacks. By detecting anomalies in sensor data, WSNs can filter out erroneous readings and ensure that only reliable and accurate data is used for analysis and decision-making.

Anomalies in WSNs can also be indicative of security breaches or malicious activities, such as sensor tampering, unauthorized access, or data injection attacks. Anomaly detection techniques can identify deviations from normal behaviour patterns, signalling potential security threats. By promptly detecting anomalies, WSNs can trigger security protocols, such as isolating compromised nodes or encrypting data transmissions, to mitigate risks and safeguard the network from cyber-attacks.

Anomaly detection enhances the reliability of WSNs by ensuring continuous and uninterrupted operation. By monitoring the behaviour of sensor nodes and detecting anomalies, WSNs can proactively identify issues such as node failures, communication disruptions, or energy depletion. Anomaly detection in WSNs is crucial for developing early warning systems for various applications, including environmental monitoring, healthcare, and disaster management. By detecting unusual patterns or deviations in sensor data, WSNs can provide early alerts for potential hazards, such as natural disasters, air quality deterioration, or abnormal physiological conditions in patients.

Anomaly detection helps optimize resource allocation in WSNs by identifying inefficiencies or abnormal resource consumption patterns. For instance, anomalies in energy usage patterns can indicate potential hardware malfunctions or inefficient software algorithms. By addressing these anomalies, WSNs can optimize resource allocation, extend network lifetime, and improve overall system performance and efficiency.

ANOMALY DETECTION TECHNIQUES:

Traditional anomaly detection techniques encompass a range of methods, including statistical, machine learning, and rule-based approaches. Here's a review of these techniques:

1. Statistical Methods:

Statistical anomaly detection techniques rely on analysing the statistical properties of data to identify deviations from expected patterns. Common statistical methods include:

- 1.1. Z-Score (Standard Score) Method:** This method computes the z-score for each data point based on its deviation from the mean and standard deviation of the dataset. Points with z-scores beyond a certain threshold are considered anomalies.
- 1.2. Probability Density Estimation (e.g., Gaussian Mixture Models):** These methods model the probability distribution of normal data and identify outliers as data points with low probability densities.
- 1.3. Control Charts (e.g., Shewhart Control Chart):** Control charts monitor the statistical properties of a process over time and flag anomalies when data points fall outside predefined control limits.

2. Machine Learning Algorithms:

Machine learning-based anomaly detection techniques leverage algorithms that learn from data to distinguish between normal and abnormal behaviour. Common machine learning approaches include:

- 2.1. Unsupervised Learning (e.g., Clustering, Density-Based Methods):** Techniques like k-means clustering or DBSCAN (Density-Based Spatial Clustering of Applications with Noise) identify clusters of normal data and flag data points that lie outside these clusters as anomalies.
- 2.2. Supervised Learning (e.g., SVM, Random Forest):** Supervised methods train classifiers on labelled data (normal vs. abnormal) to predict anomalies in unseen data.
- 2.3. Semi-Supervised Learning:** These methods use a combination of labelled and unlabelled data to build anomaly detection models, which can be more robust in scenarios with limited labelled data.

3. Rule-Based Approaches:

Rule-based anomaly detection relies on predefined rules or thresholds to identify anomalies. Examples include:

3.1. Threshold-Based Methods: Anomalies are detected based on predefined thresholds for specific features or metrics. For example, a temperature sensor might trigger an anomaly if the temperature exceeds a certain threshold.

3.2. Expert Systems: These systems incorporate domain knowledge and logical rules to detect anomalies. They are effective for scenarios where anomaly patterns are well-understood and can be explicitly defined.

Comparison and Considerations:

Statistical methods and rule-based approaches are generally more scalable and computationally efficient compared to some machine learning algorithms, which may require more resources for training and inference. Machine learning methods excel in adapting to diverse and evolving data patterns but may require more labelled data and model tuning. Rule-based and some statistical methods offer clear interpretability, making it easier to understand and validate detected anomalies.

Challenges in WSN Anomaly Detection:

1. Resource Constraints:

Limited Energy Supply: Sensor nodes in WSNs are often powered by batteries with finite capacities. Energy-efficient operation is crucial to extend network lifetime, as replacing or recharging batteries in large-scale deployments is impractical.

Processing and Memory Limitations: Sensor nodes typically have limited processing power and memory, restricting the complexity of algorithms that can be executed locally on the nodes.

Bandwidth Constraints: Communication in WSNs is typically constrained by low-bandwidth wireless channels. This limits the amount of data that can be transmitted, requiring efficient data aggregation and compression techniques.

2. Limited Communication:

Unreliable Communication Links: Wireless communication in WSNs is susceptible to interference, signal attenuation, and node failures, leading to unreliable communication links.

Multi-Hop Communication: Data transmission often relies on multi-hop routing due to the limited transmission range of individual sensor nodes. This introduces challenges related to routing efficiency, network congestion, and latency.

Synchronization Issues: Achieving synchronization among sensor nodes for coordinated operations (e.g., data collection, time-stamping) can be challenging in asynchronous and dynamic environments.

3. Dynamic Environments:

Node Mobility: In some applications (e.g., wildlife tracking, vehicular networks), sensor nodes may be mobile, leading to dynamic network topologies and changing communication patterns.

Environmental Variability: WSNs are deployed in diverse environmental conditions (e.g., outdoor/indoor, urban/rural), resulting in variations in signal propagation, interference levels, and energy consumption.

Faulty or Compromised Nodes: Sensor nodes may experience hardware failures or be subject to malicious attacks (e.g., tampering, node compromise), necessitating robust fault detection and recovery mechanisms.

Addressing Challenges in WSNs:

To address these challenges, researchers and engineers in the field of WSNs employ various techniques and strategies, including:

Energy-Efficient Protocols and Algorithms: Designing protocols and algorithms optimized for energy efficiency, such as duty-cycling, adaptive data sampling, and sleep/wake scheduling.

Distributed and Adaptive Communication Protocols: Developing robust routing and MAC (Medium Access Control) protocols that can dynamically adapt to network conditions and mitigate communication failures.

Localized Processing and Data Fusion: Utilizing techniques for in-network processing and data fusion to reduce the amount of data transmitted and alleviate bandwidth constraints.

Resilient and Self-Healing Network Architectures: Implementing fault-tolerant mechanisms, redundancy, and self-healing algorithms to ensure network reliability and integrity in dynamic and challenging environments.

Security and Privacy Measures: Deploying cryptographic techniques, authentication mechanisms, and intrusion detection systems to protect against malicious attacks and ensure data confidentiality and integrity.

LITERATURE REVIEW:

Machine learning-based anomaly detection in Wireless Sensor Networks (WSNs) has gained significant attention in recent years. Various machine learning techniques such as Support Vector Machines (SVMs), Random Forests (RFs), and Artificial Neural Networks (ANNs) have been employed to detect anomalies in WSN data, including intrusion detection, fault detection, and event detection. Researchers have proposed various methods to address the challenges associated with WSNs, such as limited processing power, bandwidth, and energy constraints. For example, some studies have proposed the use of distributed algorithms, where anomaly detection is performed by multiple nodes in the network. Other studies have proposed the use of feature selection techniques to reduce the dimensionality of the data and improve the accuracy of anomaly detection.

In [1], proposes a method for detecting anomalies in wireless sensor networks using machine learning algorithms. The method involves collecting data from sensors, preprocessing it, and applying different machine learning techniques to detect anomalies. The authors evaluate the performance of various machine learning algorithms on different datasets and conclude that the proposed method is effective in detecting anomalies in wireless sensor networks.

The paper [2] discusses the use of machine learning strategies to address design issues in wireless sensor networks (WSNs). It highlights various attempts that have been made to remedy layout issues in WSNs using machine learning techniques. However, the use of machine learning algorithms in WSNs requires consideration of several constraints, such as limited resources of the network application, the need to track specific events, and other operational and non-operational aspects. The paper emphasizes the need to carefully evaluate and select appropriate machine learning techniques to optimize the performance of WSNs.

The paper [3] discusses the importance of detecting rare events or anomalies in large datasets, which can include unusual activities, fraud, intrusion, or suspicious events that are harmful or helpful to the domain application. The paper provides an overview of various anomaly detection techniques, such as classification, nearest neighbor, clustering, statistical, spectral, information-theoretic, and graph-based techniques. The choice of suitable anomaly detection algorithms depends on factors such as input data, type of anomalies, output data, and domain knowledge. The paper concludes that choosing the appropriate technique is crucial to effectively detect anomalies in large datasets.

In this paper [4], the authors propose an Online Locally Weighted Projection Regression (OLWPR) method that uses Linear Weighted Projection Regression (LWPR) and Principal Component Analysis (PCA) for dimensionality reduction to handle irrelevant and redundant data. OLWPR achieved a detection rate of 86% and an error rate of only 16%. The security of Wireless Sensor Networks (WSNs) is crucial but challenging due to the vulnerability of the nodes to various threats. Anomaly detection is a key challenge in ensuring WSN security, and machine learning algorithms are becoming popular for this task. Most current algorithms require the entire training data to be kept in the node and run in a stationary environment, which is not feasible for WSNs.

This paper [5] presents an approach that uses machine learning algorithms to enhance the performance of one such mechanism. The experiments conducted on real medical datasets demonstrate that this approach yields more accurate results than other existing fault detection mechanisms. The proposed approach can quickly and accurately detect sensor faults with a low false alarm ratio, making it crucial for medical WSNs. Wireless sensor networks (WSNs) encounter numerous faults and anomalies, especially in medical WSNs. To address this issue, various fault detection mechanisms have been developed.

Evaluation Metrics and Benchmarking

To assess the effectiveness of anomaly detection techniques, researchers use various evaluation metrics. Precision, Recall, F1-score which measures the accuracy and completeness of anomaly detection. ROC curve and AUC method evaluates the trade-off between true positive rate and false positive rate. Benchmark datasets such as KDD Cup 1999 (for cybersecurity) and Numenta Anomaly Benchmark (NAB) facilitate comparative studies and performance evaluation of different anomaly detection algorithms.

Challenges and Limitations

Despite advancements, anomaly detection faces several challenges: Scalability is to efficiently processing large-scale datasets in real-time. Imbalanced Data is dealing with skewed distributions where anomalies are rare.

Interpretability is understanding the reasons behind detected anomalies for actionable insights. Concept Drift is adapting to evolve patterns and behaviours over time in dynamic environments.

FUTURE DIRECTIONS AND EMERGING TRENDS

Future research directions in anomaly detection includes Explainable AI for developing interpretable models to enhance trust and understanding of anomaly detection results. Online and Streaming Anomaly Detection is for addressing real-time data streams and dynamic environments. Anomaly Detection in IoT and Edge Computing is for meeting challenges in distributed and resource-constrained environments.

CONCLUSION

In conclusion, anomaly detection is a fundamental task with broad applications and evolving research directions. This literature review provides insights into the state-of-the-art techniques, challenges, and future trends in anomaly detection, emphasizing the importance of ongoing research and development to address emerging threats and complex data scenarios.

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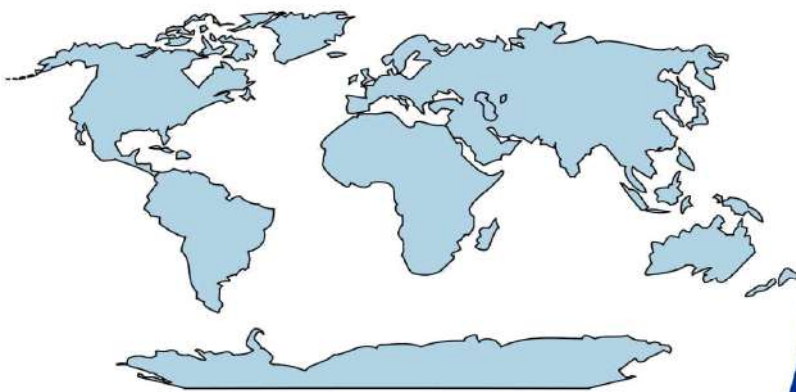
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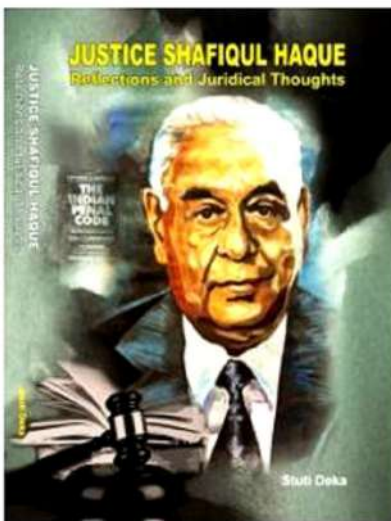


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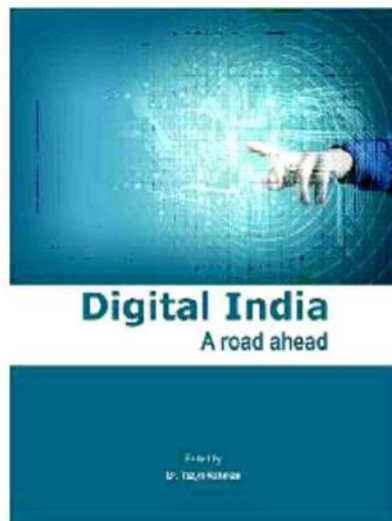
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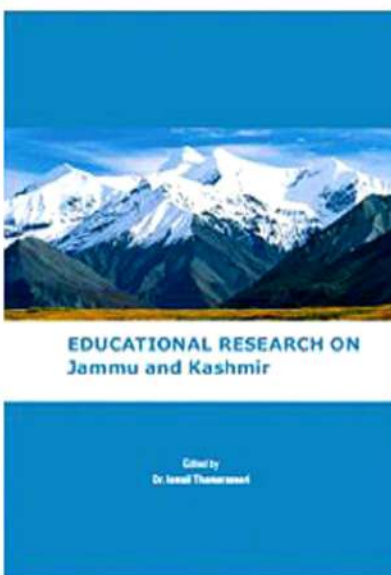
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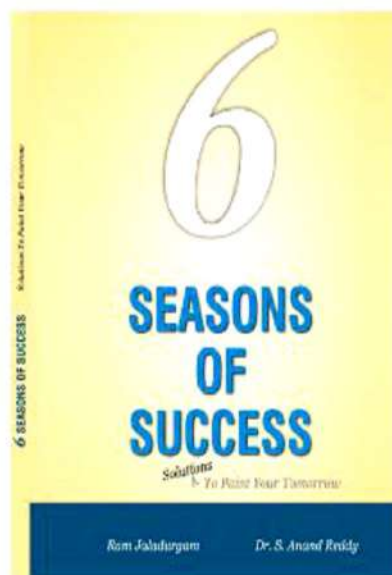
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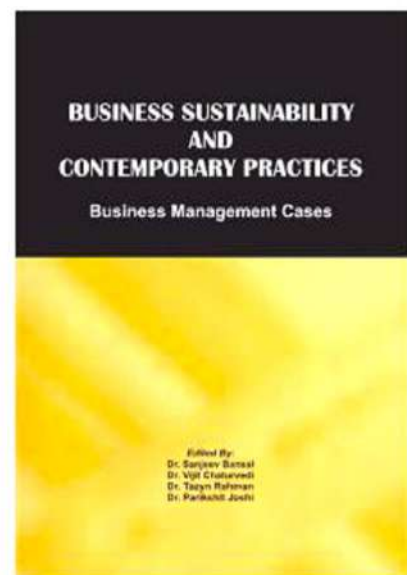
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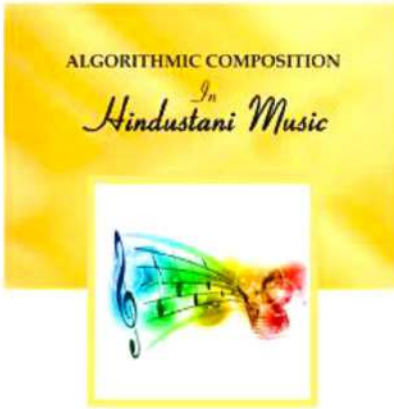
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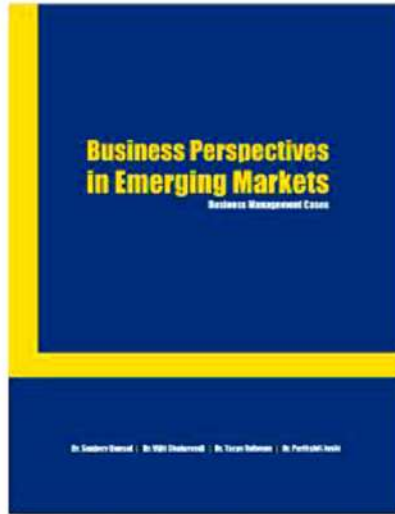
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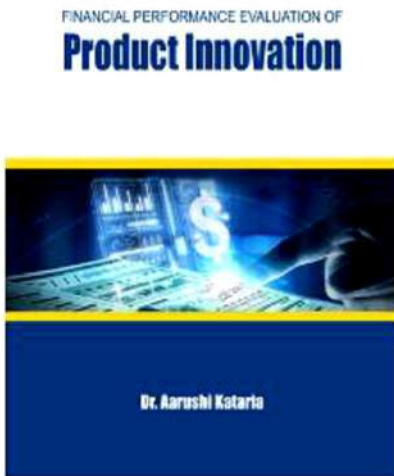


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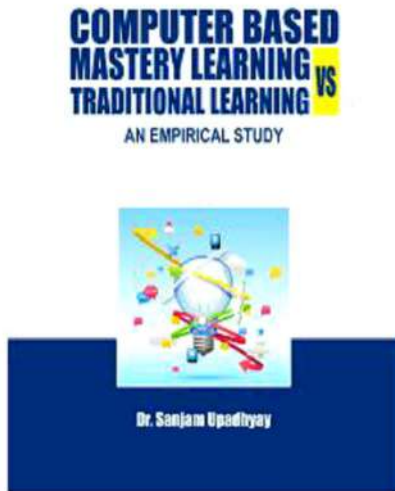
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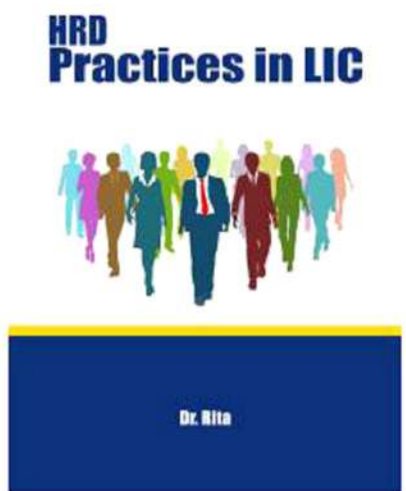
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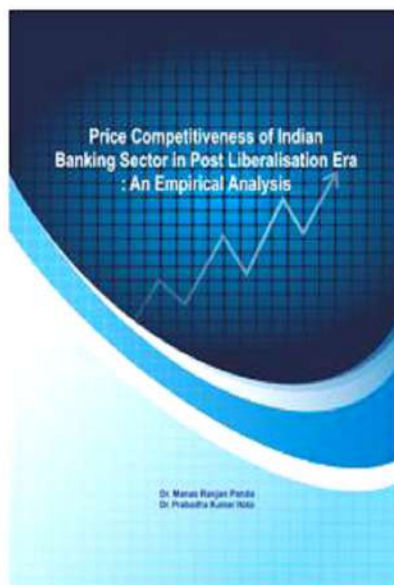
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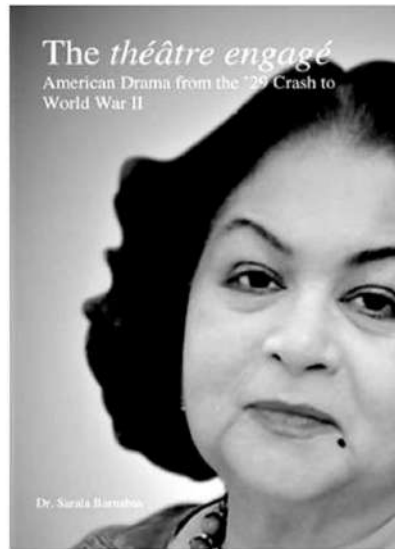
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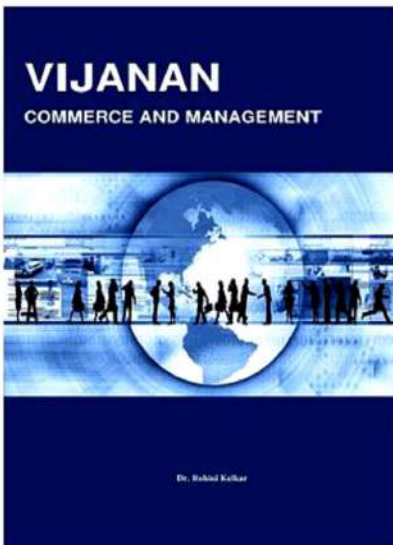
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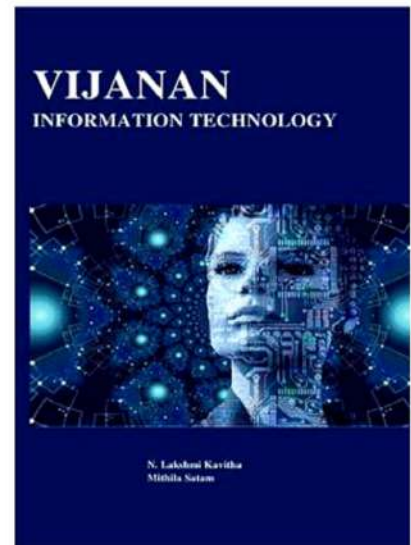
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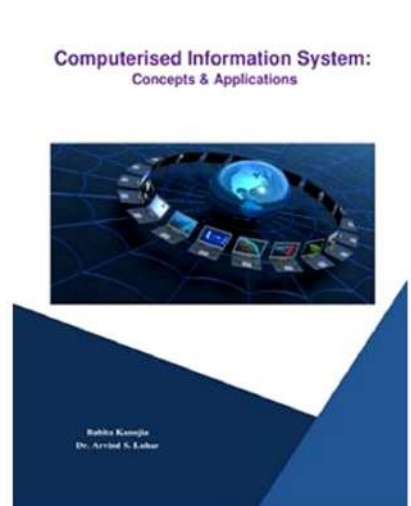
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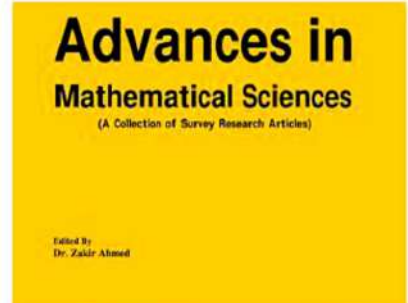
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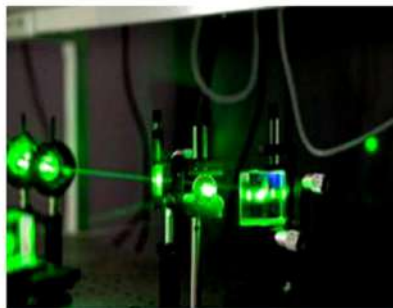


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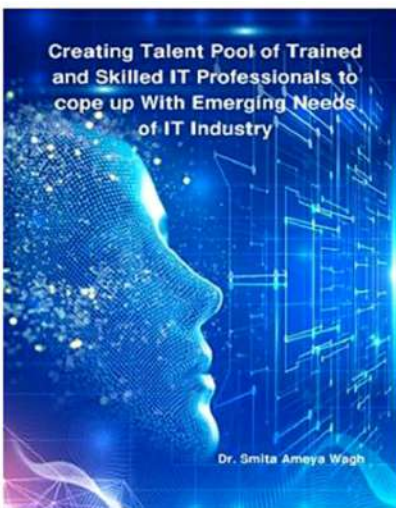
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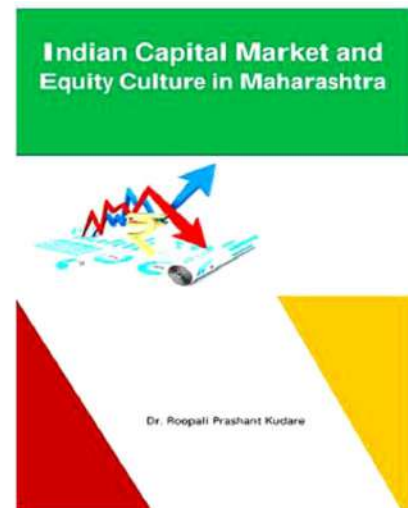
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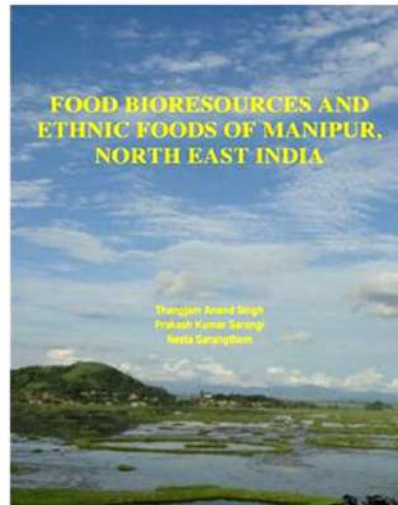
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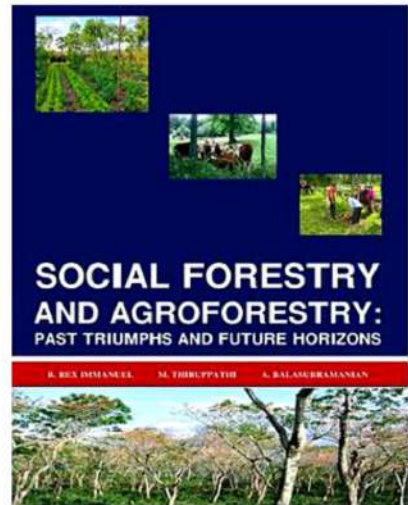
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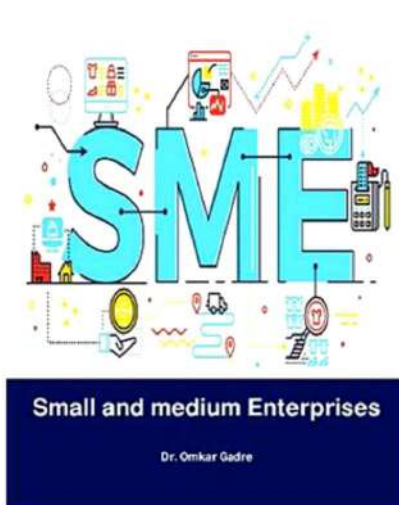
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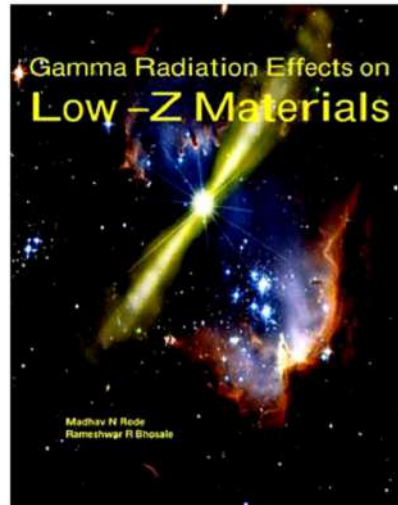
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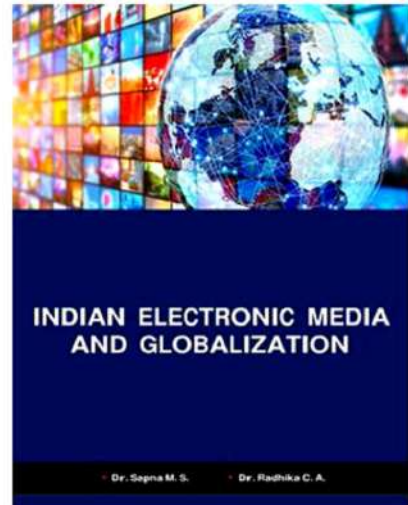
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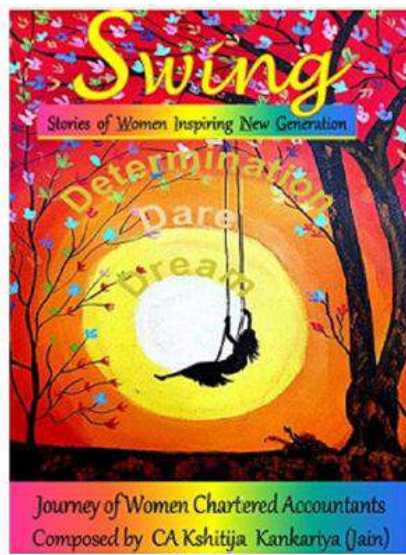
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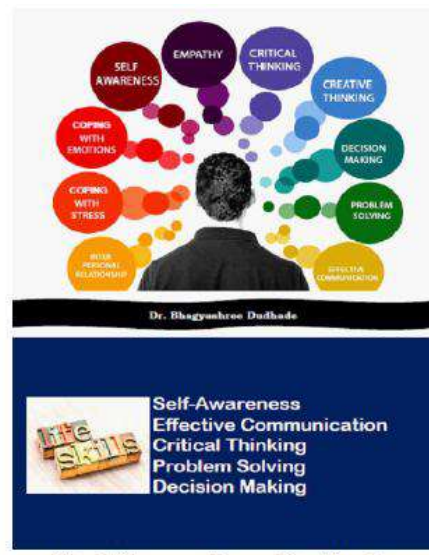
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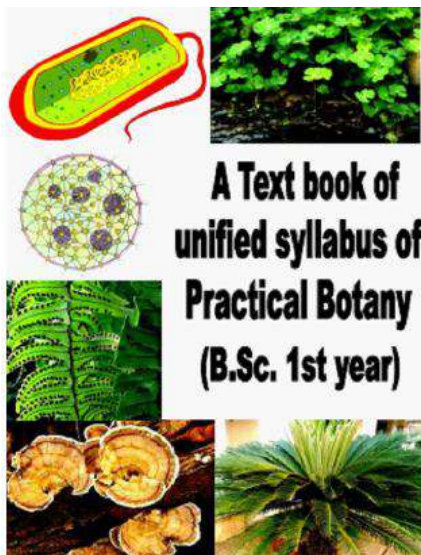
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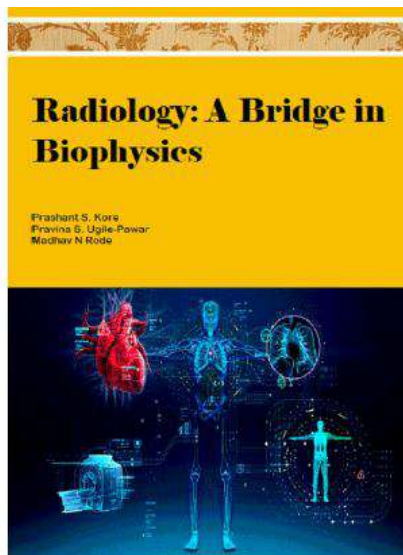
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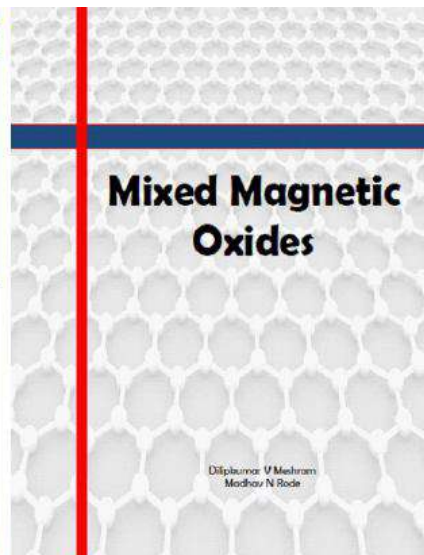
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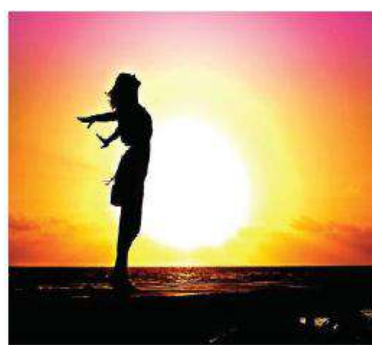
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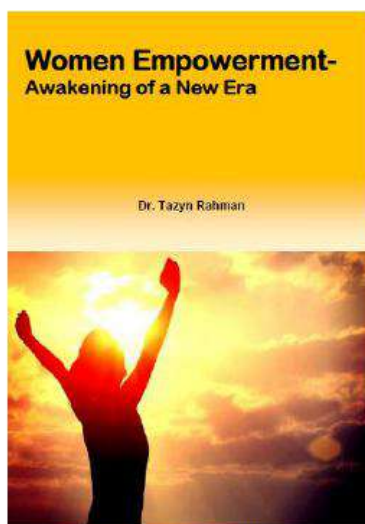
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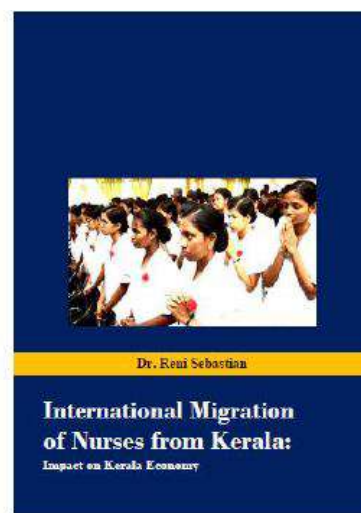
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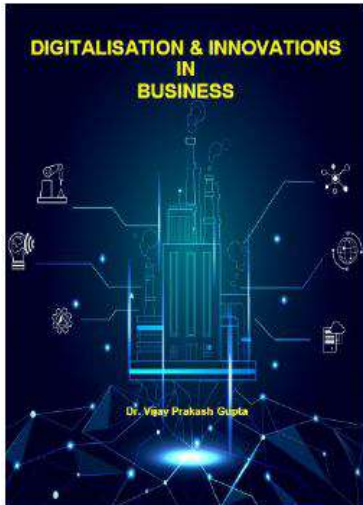
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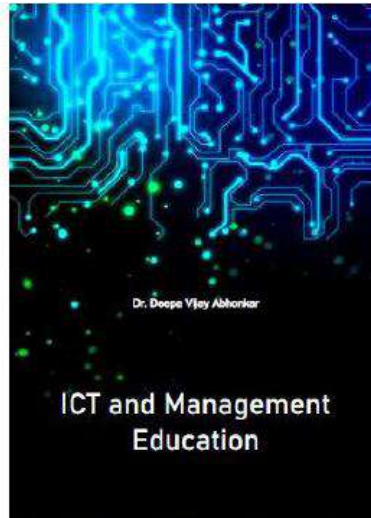
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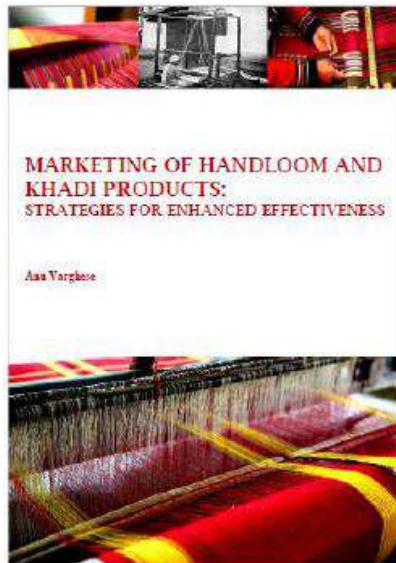
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