

Business Review

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Annual Issue

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Editor's Note

Dear Readers,

It is with great pleasure I introduce the December 2023 edition of Business Review (ISSN 0973-9076) from St. Joseph's Institute of Management (SJIM). We invited authors across the country to submit their systematically conducted research work. Following a thorough screening procedure, eight papers were selected for publication. These papers are written on range of contemporary topics that focuses on the pertinent issues of business, economic and society.

The article titled 'The Psychology of Rumour Mongering: A Case of COVID 1' by Prof. (Dr.) Tridib Chakraborti discusses the psychology of rumour mongering, in the context of COVID-19 pandemic. It highlights how rumours spread rapidly, emphasizing the importance of current and topical issues. The author describes the stages of rumour mongering and the role of poor listening skills. The article suggests a model for dealing with the crisis, urging people to be careful, observant, rational, optimistic, nurturing, and aware to combat misinformation.

The research paper entitled "An Empirical Study of Awareness and Perception About Usage of Digital Payment Modes Among Women" by Dr. Mahima Rai & Ms. Anisha Jain investigates the awareness and factors influencing the usage of digital payment modes among women in Rajasthan. Using 297 responses obtained through online survey, it pinpoints two key elements: safety and user-friendliness. They emphasized that women's awareness of digital payments is limited and highlights the need for awareness programs and initiatives.

This empirical study on 'Impact of Social Media Marketing on the Success of Start-Ups in India: An Empirical Study' explores the impact of Social Media Marketing (SMM) on the success of start-ups in India. The paper emphasizes the role of SMM in reaching a wide audience cost-effectively and presents findings that shows positive correlation between SMM and brand relationship quality. It also highlights the challenges and opportunities associated with SMM for start-ups. The paper calls for further research in this area to make SMM a more integral part of marketing strategies for start-ups in India.

A study on 'Evaluation of Professional Obstacles Faced by Working Women in the Education Sector- with Special Consideration of Jaipur Region' conducted by Ms. Reena Sharma and Dr. Boola Chouahary in the Jaipur region focuses on the professional obstacles faced by working women in the education sector. It identifies various barriers such as gender stereotypes, work-family balance issues, unfair human resource practices, and more. The study introduces the "OIS-PME" scale to quantify these obstacles and provides practical implications for addressing gender discrimination in organizations.

The study on 'The Impact of High-Performance Work Systems and Employee Engagement' by Dr. Pooja Nagpal explores the relationship between High Performance Work Systems (HPWS) and Employee Engagement (EE) in the context of IT industry in India. The research found a significant and positive correlation between HPWS and EE. The study contributes to existing literature and highlights the importance of HPWS in enhancing employee engagement, providing valuable insights for IT firms.

The study entitled as 'Consumer Behaviour Towards Durable Goods in Urban India: A Changing Landscape' by Dr. Jyoti Pradhan & Dr. Shilu Varghese primarily examines the television market in Bangalore and the consumer durables sector in India. The results emphasize how important demographic factors are influencing television brand usage. According to the results, a sizable consumer base, disposable income, and pro-business government policies are driving India's consumer durable sector's rapid growth, which presents chances for both local and foreign businesses.

The study 'Sustainable Urban Infrastructure: Achieving Green Economic Growth through Public-Private Partnerships' by Dr. Nayan Mitra & Mohammad Mostak Al Farhad underscores the significance of sustainable urban infrastructure for achieving environmentally friendly economic growth, using the West Bengal "Green City Mission" as a case study. It explains its alignment with multiple Sustainable Development Goals (SDGs). The research concludes that sustainable urban infrastructure can enhance urban living standards while advancing environmental and economic objectives, and it calls for further investigations into diverse case studies to broaden our knowledge in this field.

The descriptive research work 'A Study on Mergers and Acquisitions in the Indian Chemical Industry' by Dr. Maria Immanuvel and Christin Mathew studies the mergers and acquisitions in chemical industry. Data gathered from the annual reports of nine firms on Enterprise Value (EV) and EBITDA were used to calculate ratios. This articles explore the challenges faced by these nine firms and the strategies adopted to overcome the issues.

I thank each one of the contributing authors for their work, and I hope that this edition of Business Review will help our readers become even more knowledgeable and perceptive. I'm hoping that the researches that are presented will be crucial in helping to advance the businesses, economy and society at large.

- Dr. Deepika Joshi
Editor - Business Review

The Psychology of Rumour Mongering: A Case of COVID 19

Prof. (Dr.) Tridib Chakraborti¹

*"If you did not see with your own eyes or did not hear it with your own ears,
don't invent it with your own small mind and spread it with your big mouth."*

"Rumours are carried by Haters, spread by Idiots and accepted by Fools."

Prologue---the Context:

We have been cautioned regularly by the learned and concerned people with the warning that "Don't Listen to Rumour and Spread Rumours." It is really harmful and damaging to individual, community and society to a large extent. But who bothers. Do we really take it seriously? The answer is straight way: No, not at all. It's just like a warning on cigarette smoking and consuming alcohol. Knowing very fully that both are injurious to health, we are not serious about these. Similarly, rumour mongering people always take the benefit of a crisis situations creating unnecessary confusion which ultimately leads to chaos and major conflict. We have witnessed so many such incidents in our country since time immemorial and till today it is going on at a time when we have been passing through a critical juncture facing the challenge of coping up with COVID 19.

However, it is no denying a fact that as a part of mass behavior, rumor was there in past, it is now in present and will be there in future in our society. Therefore, rumour mongering people are always playing an active role. Some people do it for simply fun, some for ego satisfaction, some for taking revenge etc. We do know that we can't stop rumour as because we don't have any control over mass behaviour. But what we can do at least is to minimize its magnitude and check its movement. Here lies the importance of knowing a little bit of the psychology of rumour mongering. In the present write up we shall to give a synoptic view rather a snapshot on this issue. We have taken the case of COVID 19 which is very much topical, for a better understanding of the issue.

Rumour and Rumour Mongering Group: A Conceptual Spadework:

Rumor, broadly speaking, as we all know, is an unverified account of an incident/event or situation which spread mouth to mouth. Today in the digital world through social media (popularly considered as social viral). The most interesting point to be noted here that topicality of the situation/ incidents is the prime factor for spreading rumour. Rumor is concerned with the issues which are very much current and ongoing. This is exactly happening in our society in connexion with COVID 19. For the last two months we have been deeply concerned with this vital issue. From early morning to midnight our communications with others (verbal or written) revolves around only COVID 19. We are exchanging information (sometime without knowing the authenticity of the news), sometime gossiping with every aspects of the present crisis be it medical research, number of affected people, number of deaths or future economic conditions etc. It is at this juncture, rumor mongering group gets entry into the field and spreads rumor

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to serve their own interests. Knowing very fully that people are looking and searching for any information related to COVID 19, this group becomes very much active.

As stated earlier, rumour spreads only on those issues, topics, events or situations which are very much on live. To take a typical example, if rumor spreads on revolutionary medical research on Cancer, people will be less interested because their whole minds set is focused on COVID 19. The rumor mongering group knows this common human psychology. Therefore, very cleverly and silently, they capture the human mind resulting in ultimate acceptance of the rumor in the society.

Rumor Mongering: An Insider's Experience this connection, the present writer vividly remembers a live case which is worth noting here. "Few years back I was in Assam University of Barak Valley, Assam, on an academic assignment. One fine afternoon while I was taking classes in the campus (the campus is situated in a nearby hilltop outskirts of the city), all on a sudden a rumour spreads that next morning at a fixed time there will be a severe earthquake in this area. Surprisingly, without any verification almost all the campus people in lauding faculty, staff and students have left the campus and flanged back to their residences making the campus a complete barren field. Interestingly enough, nobody questions about the practicability of the events. It is a well-known fact that with the help of new scientific and technological development we are now able to identify the direction and timings of thunderstorm, cyclone and super cyclone but in the case of earthquake it is not possible till date. However, scientists in the concerned field are at least able to identify the earthquake prone zones including hotspots. Geologically speaking, Assam is an earthquake prone state and specifically Barak Valley being very much sensitive area. Quite naturally, the rumor mongering group took the advantage of the situation and played their games accordingly. The situation becomes worse when the local administration declared the closure of Educational institutions instead of verifying the authenticity of the news and cautioning the public about rumour. Though ultimately nothing happened. But I do firmly believe that the whole night was a sleepless night for almost all people other area. Later, it was identified that the source of this hoax is a single SMS from a scientist, who is mentally abnormal a little bit, of a Hyderabad based scientific research institute".

The above stated typical case clearly indicates how rumour spreads and accepted by the masses within a few hours. If we analyses the case properly then certainly we will get an idea of the psychology of rumor mongering. In spreading the rumor, the rumor mongering group always take into consideration few things i.e., what, whom, where, when and how. All these are very important, no doubt, in communicating the facts (here of course unverified and distorted facts). It is to be noted that there are three stages in the process of rumour mongering. These stages are:

- Levelling
- Sharpening
- Embedding

In the stated case, the levelling stage involves the issue/topic, the place (Here earthquake and Barak Valley of Assam. Both are no doubt matching). The sharpening stage involves timing and

use of psychological and emotional blocks of the recipients (Here the concerned people were very much emotionally and psychologically charged during that time because of devastating earthquakes of Latur (Maharashtra) and Bhuj (Gujarat) have had already in their recent past memory. Hence the process of sharpening the rumour is complete by capturing the emotional and psychological blocks of the concerned people. Finally, to make the rumor more effective and forceful, the process of embedding starts for giving it a concrete shape. (Interestingly, it is to be noted here that rumour mongering group very cleverly used a premier scientific research institution as the source of origin of the information so that recipients assimilate it easily without any doubt). Simply speaking, the process of embedding is a way to feed the recipient for easy and quick assimilation. In a sense, the cycle of rumor mongering is complete through these three processes.

Communicating through Grapevine: A source of Rumour Mongering:

The another important aspect of rumor mongering is communicating through Grapevine. Every Organization has an informal channel of communication. While the formal one's work through organization's set of rigid chains of command, the informal ones are, spearheaded by Grapevine, far more flexible and dynamic and move in all directions. Grapevine is a natural offshoot of informal relationships that prevail among the group members. Many think of it roughly as the rumor department of an organization since it thrives on:

- Spreading information without any responsibility for accuracy
- The urge among people to invent their own explanation for or read too much into matters that are not clear to them.

However, rumour is often based on facts not yet revealed or made known clearly. The interesting—or disturbing—about grapevine is that any item picked up by it instantly becomes Hot News, which people are only eager to devour and it becomes hotter and does the round.

Now the obvious question is: Why is it so effective? The answer is very simple. When news about matters that affect people's lives is withheld altogether or not reported clearly or promptly or reached in trickles and in conflicting versions or be kept on tenterhooks. Therefore, in the absence of authentic information, people tend to accept or believe what they wish to. They simply come up with some will be one plausible explanations for any mysterious matters and the version they most likely to come up with will be the one that either feeds their fantasy or confirms their suspicions or fears.

Let us look a little deeper. While the formal systems of communication may occasionally break down, the Grapevine can always be counted upon never to fail. It keeps operating speedily and powerfully. The question then should really be asked: Is not who is in news or how it moves so fast and far and wide, but what is doing the rounds and why? In fact, it is a sign of health that people indulge in informal shop-talk indicative of the fact that they take interest in their day-to-day work life situation.

In this context, another nagging question that haunts us continuously: Is the Grapevine only a peddler of gossips scandals or 'half-truth' or does it or can it be made it to perform a

legitimate function as part of overall communication process. Experiments with the Grapevine have proved that it can play a role complementary to formal communication channel. With imaginative approach, its power can be utilized by the competent authority for transmitting the desired message with the speed and effectiveness.

Poor Listening Skills and the Role of Pansophists:

It is also to be noted here that poor listening skills in the communication process play a significant role in spreading rumour. In fact, poor listening skills combines with the desire of ego satisfaction make an individual to become an active member of the rumour mongering group. While good listening skills makes an individual having an anatomical dissection of an event/situation. To take a simple example, while a good listener can dissect each and every sound in a sense forest like singing sounds of birds, rain water drops in leaf, monkey's shifting on trees, elephant's crossing of zones etc. The case is not the same with poor listener. To a poor listener the sounds are nothing but simply 'sounds of a dense forest, nothing else.

Moreover, poor listening skills along with desire for ego satisfaction distorts the facts speedily and aggravate the situation. Basically, we have two types of memory: short term (STM) and long term (LTM). In between we have forgetting cell. Now, a person with poor listening skills (along with STM) tried to communicate to others stating an incident or news he fails to describe it properly because of his poor listening skills and short term memory. At this point, desire for ego satisfaction or development—an important psychological motive—drives to take action for bridging the missing link. Knowingly or unknowingly, he fills up the gap with self-made stories leading ultimately to distortion of facts. The rumor mongering group very cleverly operates using three processes i.e., levelling, sharpening and embedding so that the rumors can be spread out rapidly among the masses.

This exactly what has been happening all over the world, India is being no exception, since last six months so far as the COVID 19 is concerned. We have been receiving continuously and regularly different types of information from multiple sources regarding COVID 19. We have been watching and listening electronic media regularly during the lockdown period. But the question is: Do we really watch and listen carefully the expert views or guidelines provided by competent authority (such as WHO, ICMR)? Take a very common example, there are two important guidelines for avoiding Corona virus i.e, wearing and using mask regularly and washing hands with soap frequently. But the problem is that because of our poor listening skills and impatience (we have common or rather bad habits of switching over to different channels using remote control in hands) thereby missing sub points. Simply, wearing mask is not enough. We have to sanitize or wash it regularly before using it. Unfortunately, most of us are not following this we have missed this sub point while listening or watching.

Similarly, simply washing hands with soap is not enough. Minimum 20 seconds duration are needed which we normally don't follow. Here also we have missed the sub points due to poor listening skills. In both the cases the main purpose will not be served. In addition, pansophists (those who believe/ think they know themselves everything better than others) for their ego satisfaction, sometimes provide wrong information and allow the third party, especially the rumor mongering group an opportunity to spread rumor. Here takes another simple example

which is a daily occurrence now in every locality. While purchasing a soap for washing hands (as prescribed) a pansophist insists for branded medicated soap (though any soap can be used as clearly mentioned in the medical guidelines) and to satisfy his ego he tries to defend himself consistently in front of a grocery shop or medical store. This gives an opportunity to vested interest group (here shop owners and stockists) to create an artificial scarcity of the product leading to price hiking and black marketing. The ultimate result is nothing but common people's sufferings. This shows how, knowingly or unknowingly we are inviting more dangers to ourselves falling prey to tumour. We ate digging our own graves.

Epilogue: Towards A Suggestive Model:

The crux of the whole discussions on the psychology of rumour mongering in the context of present situation relating to COVID 19 boils down to one single issue i.e., along with COVID 19 rumour will be there in our society as a part of mass behaviour. Now, if we take it as a reality, then what should we do? What are the options available to us to deal with this serious crisis? Though there is no straightaway and clear cut answer readily available to us, but as a keen observer and researcher on mass behavior, the present writer suggests (not a prescription) a few guidelines in a form of a simple model taking Corona as the focal point. The model is stated below:

C= Be Careful (always try to be careful about taking any decision or giving any opinion)

O= Be a keen Observer (keep eyes and ears always open. Scan the received information's in the proper perspective)

R- Be Rational (Don't indulge in irrational behaviour. Use your logical introspection)

O- Be Optimistic (always take positive attitude and have courage to fight against negativity)

N-Be a Nurturer (always try to nurture with right information and negate the wrong one)

A- Be Aware, Alert and Attentive (always be aware of and alert to the incoming danger, and also give proper attention to the guidelines provided by the competent authority using your good listening skills).

If we follow this simple model with a little bit seriousness and change our old patterned behavioural style, certainly we will be able to control rumour mongering and fight against this pandemic COVID 19. Finally, we have to carry with and always propagate the age-old saying: "Don't listen to Rumor. Don't spread Rumour."

An Empirical Study of Awareness and Perception About Usage of Digital Payment Modes Among Women

Dr. Mahima Rai¹

Anisha Jain²

Abstract

This paper is an attempt to understand the awareness of digital payment modes among women and also to investigate the factors that influence the adoption of digital payment by them. Even though much research on awareness and perception of digital payment methods has been done, there is still a need to examine these among women in Rajasthan's geographical region. An online Questionnaire using a 5-point Likert scale was employed to collect data. Out of the total responses received, 297 were considered further to arrive at the findings of the study. It was found that the women of Rajasthan are not fully aware of all the digital payment modes and various factors influence their usage of these modes. The findings of this study will encourage providers of digital payments and the government to take them into account while formulating policies and schemes. This study is an effort to comprehend perception, awareness levels, and factors that motivate the utilization of digital payment by women with specific reference to Rajasthan.

Keywords: *Employee happiness, workplace success, individual factors, organizational factors.*

1. Introduction

In 2015, our honorable Prime Minister Shri Narendra Modi Ji launched a program named “Digital India Campaign” which completed 7 years on July 1, 2022 (ET Government 2021)³. The program was started with the motto “Say no to cash and pay through digital modes”. During COVID pandemic use of digital payment modes increased manifolds.

There are different modes of Digital payments that are available in the country at the present time like Banking cards, USSD (Unstructured Supplementary Service Data), AEPS (Aadhaar Enabled Payment System), Mobile Wallets, UPI (Unified payments interface), Internet Banking, Point of sale (PoS), Mobile Banking, Bharat Interface for Money App, etc. These methods are utilized all over the world in view of the client's prerequisites and transaction suitability. Their usage saw a drastic increase during the Covid pandemic and continues to rise. Payments are done through digital modes for buy and sale exchanges, bookings of tickets, payments of utility bills, banking transactions, and many more. It likewise helps business associations to expand their profits and decrease exchange costs. It is also helpful for the country's government as they can collect taxes rapidly.

The transition to digital payment methods in recent years has profoundly changed how financial transactions are conducted. These techniques have taken center stage in contemporary

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³ Digital India is the 21st century's slogan of India's strength: PM Narendra Modi, Government News, ET Government (indiatimes.com)

commerce due to the convenience, speed, and security they offer. In our ever-evolving digital landscape, this shift holds particular significance.

The widespread acceptance of digital payment methods has become a crucial component of financial transactions in today's rapidly changing digital landscape. Exploring how women interact with these novel forms of payment is crucial as the world undergoes a digital revolution. Women's awareness and perceptions of digital payment options might provide insights into the opportunities, constraints, and trends that influence their relationships with money.

As we explore deeper into the realm of digital payments, it's becoming increasingly evident that understanding how different generations interact with these novel financial channels is crucial. This investigation places a particular focus on women. Their unique perspectives and experiences with adopting digital payment systems provide valuable insights that can illuminate the broader implications of this digital transformation.

2. Review of Literature

Digital payment is one that is paid via digital channels. In digital payments, both the payer and the payee can send and receive money via digital methods. The majority of the respondents are more aware of payment through digital modes and furthermore pleased with payment through digital modes. The evolution of smartphones among users and web penetration in such regions also facilitated the acceptance of payment through digital modes. (Deepa, 2021). This study assesses consumer satisfaction with cashless transactions using an online poll in India. The rise of online and mobile banking has made digital payments prevalent. Despite demonetization, electronic payments are favored, particularly by small vendors. Public opinion is a significant influence. A structured questionnaire was administered to 260 randomly selected individuals through convenience sampling to gain insights into consumer opinions (Mustaq Mulla, 2021). The study investigates the perception and use of digital transactions by people. It seeks an understanding of usage patterns and reasons. Since the demonetization in 2016, there have been more digital transactions, which supports India's efforts to develop a digital economy. (Sukumaran, 2020). Most of the respondents of Coimbatore City are fully aware of the banking debit cards, payments through digital modes are majorly used by them for utility bills. Also, the factor that influences the use of digital payment modes more is the transaction charge. (R. Krishna Kumari, 2018). Public sector banks are a bit weak in the overview and execution of digitization than the banks of the private sector. They should focus on more campaigning as well as on awareness programs (V.Rengarajan & V.Vijayanand, 2018). Electronic Payment modes speedily extended after demonetization and client ratio performance also increased for using electronic payment modes. Yet the issue is the absence of awareness. If an individual is properly aware of the usage of tech know-how. It will surely increase the usage of electronic payment modes and by giving proper training public will definitely start using electronic payment modes more. (Sharma, 2017). Transaction and technical strategies, and admittance to security rules are critical elements for improving buyers' apparent security, while the main elements impacting belief are admittance to security and security rules. At last, buyers' apparent trust also has a positive impact on the adoption of the digital payment system. (Maryam Barkhordaria, 2017).

Based on the analysis, it is clear that little research has been done on women's awareness and perception of digital payment methods. The existing body of knowledge leaves a significant empty space in comprehending this critical component. The current work makes a substantial contribution to the literature by identifying and filling a research gap. This study seeks to provide significant insights into women's perspectives and experiences with digital payment systems, which can contribute to a more comprehensive and inclusive understanding of financial behaviors in the digital era.

3. Research Methodology

3.1. Objectives

To conduct the research work systematically, following two research objectives were framed:

- To find out the awareness about digital payment methods among women.
- To find out the factors influencing women in using digital payment methods.

3.2. Hypotheses

On the basis of designed two objectives, the following three hypotheses were formulated:

H01: There is no significant difference in the awareness about digital payment methods among women on the basis of Education level.

H02: There is no significant difference in the awareness about digital payment methods among women on the basis of Age.

H03: There is no significant difference in the awareness about digital payment methods among women on the basis of Income level.

3.3. Sampling Design

According to the census 2011, the population of Rajasthan is 6.86 Crores approximately whereas the gender ratio is 928 women over 1000 males (Census 2011). Using the judgmental sampling technique, the data collection was done by the women of Rajasthan. The span of data collection was three months (June 2022 to August 2022).

The basis of this current study is built upon primary data derived from a sample of 297 women residing in the four major cities of Rajasthan: Jaipur, Jodhpur, Kota, and Bikaner. This dataset was meticulously assembled through the utilization of online resources, primarily Google Forms, and supplemented with information gathered from secondary sources such as academic journals and research papers. A carefully crafted questionnaire was distributed to 350 women, out of which 297 responses underwent thorough examination before undergoing more comprehensive analysis. Throughout this rigorous process, utmost care was taken to ensure the privacy and confidentiality of the participants, as well as the invaluable insights they provided.

3.4. Sampling Unit and Sample Size

The segment of the population actively engaged in digital payment usage was intentionally selected as the sampling unit for this study, with a specific emphasis on women from Rajasthan. By adopting this approach, the study aimed to narrow its focus to a specific subset of the overall population, ensuring the collection of precise and relevant data. The research aimed to provide insights that are customized to this specific demographic within the broader context of digital transactions and financial engagement, by concentrating on women from Rajasthan who utilize digital payment methods. The sample size of 297 was found to be the appropriate to test the hypothesis.

3.5. Measures and Data Analysis Tool

The questionnaire of the study was based on a 5-point Likert scale, ranging from strongly agree to strongly disagree. The reliability of the data was evaluated using Cronbach's alpha. Responses were analyzed using IBM SPSS Statistics. ANOVA with a 5% level of significance was used to test the Hypotheses.

3.6. Demographics Profile

Out of the 350 responses collected. A total of 297 valid responses were considered for the study after eliminating 53 responses because of missing values. Descriptive analysis reveals that the majority (50.1%) of women respondents belonged to the age group of 21-30, Post-Graduation was the highest qualification of the majority (38.7%) of women and most of them belonged to the family income group of Rs 150,000 and above.

Table 1: Demographic details of respondents

Variables	Measure	Frequency	Percentage
Age	Below 20	35	11.8
	21-30	149	50.1
	31-40	47	15.9
	41 and above	66	22.2
Education	Upto School level	24	8
	Graduation	101	34
	Post-Graduation	115	38.7
	Professional (C.A, C.S, Dr.)	57	19.3
Family Income	Less than 500000	56	18.8
	500001 – 1000000	85	28.7
	1000001 – 1500000	56	18.8
	1500001 and above	100	33.6
Total	297	100	

Source: Primary Data

4. Data Analysis and Findings

4.1 Reliability Test

The reliability of the questionnaire items was checked for internal consistency using Cronbach's alpha. The reliability of all 34 items is reflected by Cronbach's alpha of 0.726, which is considered to be in the acceptable range.

Table 2: Reliability statistics

Cronbach's Alpha	N of Items
.726	34

Source: Analysis of Primary Data

4.2 Results of Hypotheses Testing

H01: There is no significant difference in the awareness about digital payment methods among women on the basis of Education level.

Table 3: ANOVA results

Digital payment methods		Sum of Squares	df	Mean Square	F	Sig.
Banking card (Debit or Credit cards)	Between Groups	4.531	3	1.510	1.121	.341
	Within Groups	394.830	293	1.348		
	Total	399.360	296			
USSD	Between Groups	2.238	3	.746	.436	.728
	Within Groups	501.641	293	1.712		
	Total	503.879	296			
AEPS	Between Groups	3.130	3	1.043	.643	.588
	Within Groups	475.079	293	1.621		
	Total	478.209	296			

UPI	Between Groups	2.584	3	.861	.597	.617
	Within Groups	422.749	293	1.443		
	Total	425.333	296			
Mobile Wallets Apps	Between Groups	3.367	3	1.122	.637	.592
	Within Groups	516.135	293	1.762		
	Total	519.502	296			
Point of Sale	Between Groups	5.505	3	1.835	1.093	.352
	Within Groups	492.010	293	1.679		
	Total	497.515	296			
Internet Banking	Between Groups	2.294	3	.765	.542	.654
	Within Groups	413.269	293	1.410		
	Total	415.562	296			
Mobile Banking Apps	Between Groups	.731	3	.244	.150	.930
	Within Groups	476.104	293	1.625		
	Total	476.835	296			
BHIM app	Between Groups	1.489	3	.496	.336	.800
	Within Groups	433.480	293	1.479		
	Total	434.970	296			

Source: Analysis of Primary Data

Table 3 shows that the significance value for all statements is greater than 0.05 so the null hypothesis is accepted at a 5% level of significance. So, it can be stated that there is no significant difference in the awareness of digital payment methods among women on the basis of education level. This could be due to the fact that the Covid 19 pandemic has resulted in increased usage of digital payment modes and so, education has no role to play in the usage of digital payment modes.

H02: There is no significant difference in the awareness about digital payment methods among women on the basis of Age.

Table 4: ANOVA results

Digital payment methods		Sum of Squares	df	Mean Square	F	Sig.
Banking card Debit or Credit cards	Between Groups	3.172	3	1.057	.782	.505
	Within Groups	396.189	293	1.352		
	Total	399.360	296			
USSD	Between Groups	12.149	3	4.050	2.413	.067
	Within Groups	491.729	293	1.678		
	Total	503.879	296			
AEPS	Between Groups	1.867	3	.622	.383	.766
	Within Groups	476.342	293	1.626		
	Total	478.209	296			
UPI	Between Groups	3.048	3	1.016	.705	.550
	Within Groups	422.285	293	1.441		
	Total	425.333	296			
Mobile Wallets Apps	Between Groups	14.248	3	4.749	2.754	.043
	Within Groups	505.253	293	1.724		
	Total	519.502	296			

Point of Sale	Between Groups	8.490	3	2.830	1.696	.168
	Within Groups	489.025	293	1.669		
	Total	497.515	296			
Internet Banking	Between Groups	9.293	3	3.098	2.234	.084
	Within Groups	406.269	293	1.387		
	Total	415.562	296			
Mobile Banking Apps	Between Groups	5.795	3	1.932	1.202	.309
	Within Groups	471.040	293	1.608		
	Total	476.835	296			
BHIM app	Between Groups	1.215	3	.405	.274	.844
	Within Groups	433.755	293	1.480		
	Total	434.970	296			

Source: Analysis of Primary Data

In the majority of cases like banking cards (Debit or Credit cards), USSD (Unstructured Supplementary Service Data), Point of Sale (PoS), APES (Aadhaar Enabled Payment System), UPI, Internet Banking (NEFT, RTGS IMPS), Mobile Banking Apps of various bank and Bharat Interface for Money (BHIM app) the null hypothesis is accepted as the significance value is more than 0.05 lack of awareness could be the major reason for this. However, in Mobile Wallets Apps like Paytm, Mobikwik, Google pay, PhonePe, etc null hypothesis is rejected as the significance value is 0.043 which is less than the accepted value of 0.05. Mobile wallets are significantly simpler to use than other digital methods of payment, which may be the main factor driving the difference in usage of Mobile Wallets Apps like Paytm, Mobikwik, Google pay, PhonePe, etc by different age groups.

H03: There is no significant difference in the awareness about digital payment methods among women on the basis of Income level.

Table 5: ANOVA results

Digital payment methods		Sum of Squares	Df	Mean Square	F	Sig.
Banking Card (Debit or Credit Cards)	Between Groups	.381	3	.127	.093	.964
	Within Groups	398.979	293	1.362		
	Total	399.360	296			
USSD	Between Groups	3.559	3	1.186	.695	.556
	Within Groups	500.320	293	1.708		
	Total	503.879	296			
AEPS	Between Groups	5.748	3	1.916	1.188	.314
	Within Groups	472.460	293	1.612		
	Total	478.209	296			
UPI	Between Groups	2.755	3	.918	.637	.592
	Within Groups	422.578	293	1.442		
	Total	425.333	296			
Mobile Wallets Apps	Between Groups	4.478	3	1.493	.849	.468
	Within Groups	515.024	293	1.758		
	Total	519.502	296			
PoS	Between Groups	4.244	3	1.415	.840	.473
	Within Groups	493.272	293	1.684		
	Total	497.515	296			
Internet Banking	Between Groups	1.432	3	.477	.338	.798
	Within Groups	414.130	293	1.413		
	Total	415.562	296			

Mobile Banking Apps	Between Groups	3.338	3	1.113	.688	.560
	Within Groups	473.497	293	1.616		
	Total	476.835	296			
BHIM app	Between Groups	1.114	3	.371	.251	.861
	Within Groups	433.856	293	1.481		
	Total	434.970	296			

Source: Analysis of Primary Data

Table 5 shows that the significance value for all statements is greater than 0.05, so the null hypothesis is accepted at a 5% level of significance. So, we can state that there is no significant difference in the awareness of digital payment methods on the basis of Income level. There is no difference in the use of digital payment methods based on income due to the Covid 19 pandemic. Income has little bearing on how often digital payment methods are used. Women in Rajasthan have been reluctant to use hard currency since the Covid pandemic because they are afraid of it.

4.3 The factors influencing women in using digital payment methods

4.3.1 KMO and Bartlett's Test (Risk variable)

Determining the value of the KMO measure and applying Bartlett's Test of Sphericity are the initial steps in using factor analysis. Both of these measurements show that a sufficient sample size exists for the application of factor analysis. This test is applied to all 9 factors discussed in this paper that influence women's use of digital payment methods.

Table 6: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.869
Bartlett's Test of Sphericity	Approx. Chi-Square	1052.316
	df	36
	Sig.	.000

Source: Analysis of Primary Data

An acceptable value of KMO for further research must be greater than 0.6. Table No. 6 depicts that the KMO measure is larger than 0.60, which is sufficient for sampling efficiency and subsequent hypothesis testing. Bartlett's test of Sphericity, which is related to the study's significance, must be less than 0.05. Table 6 demonstrates that Bartlett's test of Sphericity is significant, indicating that the study's sample is suitable for factor analysis.

Table 7: Communalities

	Initial	Extraction
Easier to Manage	1.000	.665
Save time	1.000	.709
Instant refunds	1.000	.615
Safer than cash	1.000	.546
Track spending	1.000	.669
Controls expenses	1.000	.555
Discounts Rewards Cashback Offers	1.000	.524
Available 24*7	1.000	.586
Hassle-free payments	1.000	.642
Extraction Method: Principal Component Analysis.		

Source: Analysis of Primary Data

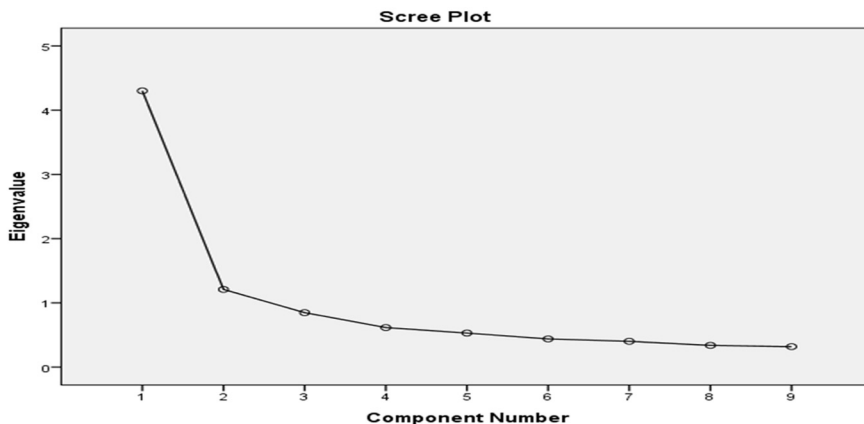
In table 6, “Communalities” values show what proportion of each variable’s variance can be accounted for by the components that were kept. In the common factor space, variables with high values (greater than 0.5) are well represented, whereas variables with low values are poorly represented. All of the components have high extraction values, as can be seen, thus we don’t need to regress any of the factors.

Table 8: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.301	47.787	47.787	4.301	47.787	47.787
2	1.209	13.435	61.222	1.209	13.435	61.222
3	.848	9.422	70.644			
4	.616	6.839	77.483			
5	.530	5.884	83.367			
6	.439	4.873	88.240			
7	.402	4.465	92.705			
8	.338	3.758	96.463			
9	.318	3.537	100.000			
Extraction Method: Principal Component Analysis.						

Source: Analysis of Primary Data

Chart 1: The scree plot



Source: Analysis of Primary Data

Kaiser's criterion of retaining factors with an Eigenvalue greater than 1 is found in SPSS table 7. When the Communalities after extraction are higher than 0.7 or the sample size is bigger than 250, the average Communalities are higher than 0.6, Kaiser's criteria are valid. The scree plot illustrates the fact that none of the factors are extracted.

Table 9: Rotated component matrix (risk variable)

	Component	
	1	2
Easier to Manage		.802
Save time		.828
Instant refunds	.654	
Safer than cash	.632	
Track spending	.770	
Controls expenses	.726	
Discounts Rewards Cashback Offers	.646	
Available 24*7		.737
Hassle-free payments		.571
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

Source: Analysis of Primary Data

The rotated factor loadings (factor pattern matrix) in Table 9 show the association between the factors and the variables as well as how the variables are weighted for each factor.

Table 10: Factors extracted (risk variable)

Factors	Item	Factor loading value
Factor 1: User Friendly	Easier to Manage	.802
	Saves time	.828
	Instant refunds	.654
	Track spending	.770
	Controls expenses	.726
	Available 24*7	.737
Factor 2: Safety	Safer than cash	.632
	Discounts Rewards Cashback Offers	.646
	Hassle-free payments	.571

Source: Analysis of Primary Data

Table 10 lists the factors, the factor loading value, and the items that fall under each factor. All the 10 factors which came from the rotated component matrix are grouped under two factors i.e user-friendly and safety.

5. Conclusion

Our lives are now easier due to technology. One of the developments in the fields of business, finance, and banking is the digital payment system. The current study is an effort to know about the awareness of digital payment modes among the women of Rajasthan. On the basis of this study, it is found that women who are paying digitally are majorly influenced by instant refunds and discounts. In addition to this, how easy the modes are to use, the 24*7 availability, and hassle-free transaction are also the chief factors that are responsible for the development of a habit of paying through digital modes. In this study, it was also found that there was not much awareness of the subject among women. They aren't aware of how effective and efficient it could be when the payments are being made with just a click. In order to bridge the gap, the government, banks, and Fintech companies should do awareness programs and demos which will increase awareness about digital payment modes. Students, governmental entities, decision-makers, and upcoming academics will all benefit from the study. Moreover, it is helpful to people who are working to develop and empower women.

6. Implications and Limitations of the Study

The study's findings have the potential to drive substantial change, motivating digital payment companies and governmental agencies to take them into account when developing legislation and designing programs. The findings of this study can be a significant resource for decision-makers in developing more targeted and successful strategies that address the requirements,

preferences, and concerns of women in the arena of digital financial transactions. As a result, the study's findings have the potential to contribute not only to improved user experiences, but also to the broader progress of financial inclusion and empowerment.

The study is descriptive in nature but still is not free from certain limitations. The primary area of limitation relates to the sample size and the technique of sampling. The study is completely done in reference to women of four cities in Rajasthan. The second limitation is related to hypothesis testing. In this study, the hypothesis is tested only through ANOVA. It is suggested that future researchers can go with other factors that influence the awareness and usage of digital payment methods and with the other States of India. Though there are limitations in the research, still it is expected that it should be helpful for researchers, scholars, and professionals in understanding the awareness and perception level of the digital payment system among the women of Rajasthan.

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Impact of Social Media Marketing on the Success of Start-Ups in India: An Empirical Study

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Abstract

In today's dynamic business environment, it has become arduous for businesses and startups to gauge consumer taste and preferences that change frequently. Social media marketing (SMM) offers a great medium for collecting real-time data accounting to different search habits of the people, leading to their wants and ultimate purchases. SMM has completely changed the focus of business marketing strategies and has helped start-ups to communicate about their products, or services to target their audience in an appropriate manner. The objective of the study is to study the reasons behind consumer's attitude towards SMM, and their implications to entrepreneurs for sustained expansions and growth in India. The methodology adopted for this paper consists of a literature review of SMM, its SWOT analysis and a questionnaire-based survey to find out the behaviour of consumers towards SMM affecting their buying decision making. The study concludes that consumers have their own preferred social media platforms where they access product information and SMM aids them in making cognizant purchasing decisions. Given its importance, more research needs to be done in these areas to make SMM a prominent part of marketing strategies in future, especially for the start-ups.

Keywords: *Buying decision making; questionnaire-based survey; social media marketing; start-up; SWOT analysis.*

1. Introduction

In this digital age, the success of a start-up is not solely reliant on innovative ideas or products but it heavily hinges on effective marketing strategies. Among these approaches, social media marketing has emerged as a potent tool for reaching and engaging with a vast audience in a cost-effective manner. India has witnessed a significant surge in entrepreneurial ventures over the past decade. With a burgeoning middle class, a tech-savvy population, and an increasingly favourable business environment, the country has become a breeding ground for innovative start-ups across various sectors, from technology to e-commerce and beyond. The rise of start-ups in India has garnered significant attention in recent years. As these entrepreneurial ventures

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navigate a highly competitive business landscape, the role of marketing strategies, particularly social media marketing, in determining their success has become a subject of interest.

Social Media Marketing (SMM) is the use of social media platforms and websites to promote a product or service (Felix et al., 2017). SMM, being a part of digital marketing, has become a new and powerful tool for businesses and has taken their marketing strategies to a new level altogether. It has completely changed the focus of business marketing strategies. It has also helped start-ups to communicate about their products, or services to their target audience in a clear manner. SMM relates to how an organisation displays itself to the audience and the way people perceive and discuss an organization's brand.

As of August, 2023, India boasts of 108 unicorns collectively valued at a staggering \$340.80 billion (Invest India, 2022). Social media platforms have seamlessly integrated themselves into the daily lives of millions of people. There are approximately 4.9 billion social media users globally, with over 755.5 million social media users in India as of 2023; implying that platforms like Facebook, Instagram, Twitter, and LinkedIn have become invaluable tools for marketing and branding (Demandsage, 2023). Start-ups are keenly aware of the potential these platforms offer for reaching their target audience, building brand awareness, and fostering customer engagement. Since the number of social media users has increased exponentially in recent years, organisations now place increased emphasis atop online advertising, and use a major part of their marketing budget for this purpose. These SMM strategies give them more accurate and faster results than traditional marketing techniques by creating more interesting and engaging content.

There are also a lot of things that start-ups are lacking in the present environment. One of the primary factors is not having a sound marketing strategy catered specifically to start-ups needs; especially on social media. They should identify their strengths and weaknesses and also have a thorough market research done for the area or sector they are planning to penetrate into. Second factor is consumer relevance and benefit orientation. A lot of start-ups are running based upon copied or similar ideas. The products offered to the consumers should be relevant and should solve that need of the consumers which they didn't even recognise or not had a solution to it earlier. A start-up will survive only if it offers some benefit to the consumer. There is also a lack of proper customer engagement and advocacy by start-ups to the consumer. A start-up needs to communicate properly, its offerings to the consumer and take feedbacks periodically. It is here that SMM can be of vast significance.

This research assumes importance as it attempts to study the impact of social media marketing on the success of start-ups in India. Some research gaps have been identified, for instance, the absence of proper research pertaining to the success or failure of start-ups through SMM, the consumer's attitude towards SMM and its effectiveness towards consumer's buying behaviour. Hence, this current paper is dedicated towards two important issues, addressing the research gap and the consumer's response towards products via SMM and finding solutions for both the start-ups and consumers alike.

2. Literature Review

The initiatives taken by the Government of India for promoting start-ups has increased in the past few years. From improving its rank from 142 in the year 2014 to 62 in 2023, India has made a significant jump in the ease of doing business in the country (World Bank, 2023). “Startup India”, an initiative by Ministry of Commerce and Industry has encouraged the youth to move in the direction of entrepreneurship by offering substantial tax benefits and exemptions.

India ranks as the world's fifth-largest economy in terms of nominal GDP and the third-largest when considering purchasing power parity (PPP) (IMF, 2023). It boasts of the 3rd biggest ecosystem for start-ups globally with over 99,000 start-ups with the Department for Promotion of Industry and Internal Trade (DPIIT) having recognized start-ups across 670 districts of the country as of May 2023 (Invest India, 2022). India ranks 1st in innovation quality including leading positions as far as the quality of scientific article publications and the quality of its universities are concerned among the middle-income economies; 1st among the 10 economies in Central and Southern Asia and 40th overall globally (WIPO, 2023). The innovation in India is spread over 56 diverse industrial sectors like IT services (13%), healthcare and life sciences (9%), education (7%), professional and commercial services (5%), agriculture (5%), food and beverages (5%) and others (56%). The Indian Start-up ecosystem has witnessed 15-times increase in the total fundings, 9-times increase in the number of investors and 7-times increase in the number of incubators from 2014 to 2022 (Invest India, 2022). All these increases in the volume of businesses and investments in start-ups implies an even more important role for SMM.

The youth has become smarter using SMM for creating new professions which did not even exist before like YouTube V-Blogger, social media influencers, etc. In all such professions, introduction of social media, and SMM has played a major role (Mathur et al., 2018). Platforms like Facebook, Instagram, Snapchat and Twitter have helped people connect to different parts of the world, and have helped companies to reach out to their potential customers in a better way.

Since SMM is a relatively new concept, there has been very limited research on finding its impact on the success or failure of start-ups. Hudson et al., 2016, recently performed a collaborative multi-national survey, the conclusion of which showed a positive correlation between social media use and brand relationship quality, with an enhancement due to cultural amalgamations. The findings of another interesting study which attempted to link SMM with retention of consumers by building brand loyalties in young consumers, suggested high effectiveness of the online marketing communication tools in promoting brand loyalties and buying behaviours (Balakrishnan et al., 2014). Most social media websites like Facebook, Instagram, Snapchat, Twitter, etc. have brand fan pages where people tend to follow celebrities, companies or products, where paid promotions are also done for products. Such social media websites are a relatively new and highly effective trend of advertisements and marketing campaigns (De Vries et al., 2012). Statistics show that the average time spent online per week by urban users across India in 2016, based on activity was about 212 minutes per week spent on chat applications, social media and online entertainment by urban internet users, while about 85 minutes per week was spent on digital payments and

government services during the measured time period (Statista.com, 2022). The impact of COVID-19 on start-ups has also been severe and in these times SMM has come to their rescue as traditional marketing was not possible during its peak (Bhardawaj and Bhardwaj, 2021; Oberoi et al., 2021; Bhardawaj et al., 2022; Bhardawaj et al., 2023).

The influence of social media platforms for startups has been a relatively new field of research with limited research (Akula, 2015; Reuber & Fischer, 2022). A few studies have highlighted the positive relationship between social media marketing and enhanced brand visibility for start-ups (Rugova & Prenaj, 2016; Parida & Prasanna, 2021; Ra'd Almestarihi et al., 2021; Singhal & Kapur, 2022). Through visually engaging content on platforms like Instagram and Facebook, start-ups can effectively capture the attention of their target audience, thereby reinforcing brand recognition. The cost-effectiveness of social media marketing for start-ups is a recurring theme in the literature (Sharma & Bharathi, 2013; Poddar & Agarwal, 2019; Sharma et al., 2023). Traditional marketing methods can be financially burdensome for cash-strapped start-ups, making social media platforms an attractive alternative for reaching a broader audience within budget constraints.

Studies have consistently emphasized the importance of social media in facilitating direct customer engagement and feedback (Chen et al., 2017; Venkatesh, 2018; Garg et al., 2022; Hawaldar et al., 2022; Rudeloff et al., 2022; Sharma & Singh, 2022; Robson & Banerjee, 2023). Start-ups can respond to inquiries, gather valuable feedback, and tailor their products and services to meet customer expectations, ultimately enhancing customer satisfaction and loyalty. The utilization of social media analytics tools to gather data on audience behaviour and preferences is a key advantage (Bhateja et al., 2013; Arora et al., 2014; Goel & Bhardawaj, 2014; Sehra et al., 2014; Patel & Chugan, 2018; Jung & Jeong, 2020; Almansour, 2022; Gupta et al., 2022). This data empowers start-ups to make data-driven marketing decisions and adapt their strategies for optimal outcomes.

A compelling finding is that social media enables even small start-ups, especially in a digitally advanced country like India to expand their global reach (Brooks et al., 2014; Kaushik, 2016; Basri & Siam, 2017; Gulati, 2019; Bhardawaj et al., 2023; Sidhu et al., 2023). This international exposure opens up new growth opportunities and avenues for collaboration. Some researchers have also highlighted the challenges and risks associated with social media marketing, including managing online reputation and handling negative feedback (Bhardawaj et al., 2018; Chakraborti et al., 2022a; Chakraborti et al., 2022b). Understanding and mitigating these challenges are crucial for long-term success.

3. Research Methodology

3.1 Research objectives

To conduct a questionnaire-based survey, in order to study the reasons behind consumer's attitude towards SMM, and their implications to entrepreneurs for sustained expansions and growth in India.

3.2 Data collection

A questionnaire-based survey was conducted between July 2021 and August 2022 to find out the perception of consumers towards SMM affecting their buying decision making. The questionnaire was designed on Google Forms and distributed to the potential respondents via different modes like: WhatsApp, Facebook Messenger, E-mail, etc. The questionnaire contained demographic questions, multiple choice questions, rating / ranking scale questions, open-ended questions, short comments, etc.

3.3 Sample size

A total sample size of 1761 responses were received from all modes that were complete in all respects and were included in this study.

3.4 Research design

The methodology adopted for this paper is threefold (figure 1). Firstly, it consists of a literature review of SMM and consumer influence on buying decision making. Secondly, a SWOT analysis was done to gauge the strengths, weaknesses, opportunities and threats of use of SMM for start-ups. Finally, a questionnaire-based survey was carried out. The responses were analysed using Chi square technique and the important results are presented here to gauge the overall effect of SMM on start-up populations.

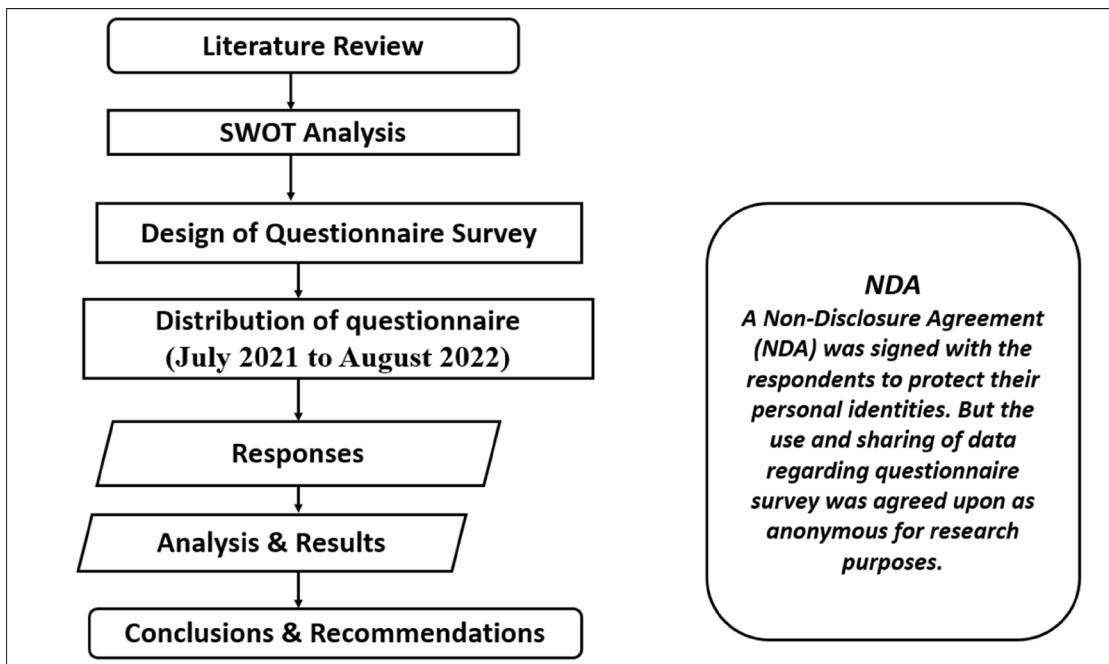


Figure 1. Methodology Diagram

4. Results and Discussions

4.1 Demographic profile of the respondents

Demographic profile of the respondents of questionnaire survey has been tabulated in table 1.

Table 1. Demographic profile of respondents

S.No	Demographic Factor	Result (in figure)	Result (in %)
1	Total Number of Respondents	1761	100
2	Whether on social media		
	Yes	1638	93
	No	123	7
3	Sex		
	Male	1130	64.2
	Female	631	35.8
	Others	0	0
4	Age Group (in years)		
	Upto 18	238	13.5
	19-25	495	28.1
	26-35	787	44.7
	36-50	218	12.4
	51 and above	23	1.3
5	Qualifications		
	Upto High School	95	5.4
	Graduate	786	44.6
	Post Graduate (PG)	748	42.5
	Above PG	132	7.5
	Others	0	0
6	Present Occupation		
	Student	858	48.7
	Professional	490	27.8
	Business	144	8.2
	Housewife	165	9.4
	Others	104	5.9

4.2 SWOT Analysis of SMM for start-ups

The SWOT Analysis of SMM for start-ups has been done and presented in table 2.

Table 2. SWOT Analysis of Social Media Marketing (SMM) for Start-ups

Strengths	Weakness
• High reach due to huge number of potential buyers on social media. • Helps to reach the right customers. • Better and fast communication. • Bridges the gap between the customers and the organisation. • Results are faster to evaluate. • More economical than traditional marketing. • Integration with many websites and mobile applications.	• If the product information is not communicated properly, it may lead to misinterpretation of the information. • If the segmentation and targeting of potential customer group is not identified properly, it may lead to misallocation of funds. • Negative impact is fast and sometimes irreversible. • Quality of content is highly variable.
Opportunities	Threats
• Helps target new potential markets. • Niche target market. • Create a strong loyal community. Audience engagement is high.	• False and fake reviews. • Misuse of platform by fake companies. • No authentication of information. Trust issues.

4.3 Results and discussions of questionnaire survey

4.3.1 Social Media platform preference of the respondents

The majority of respondents preferred using WhatsApp, YouTube and Facebook the most and Pinterest and Reddit the least (figure 2). The start-up owners can make their marketing strategy based upon such preferences and maximize their advertisings on these platforms.

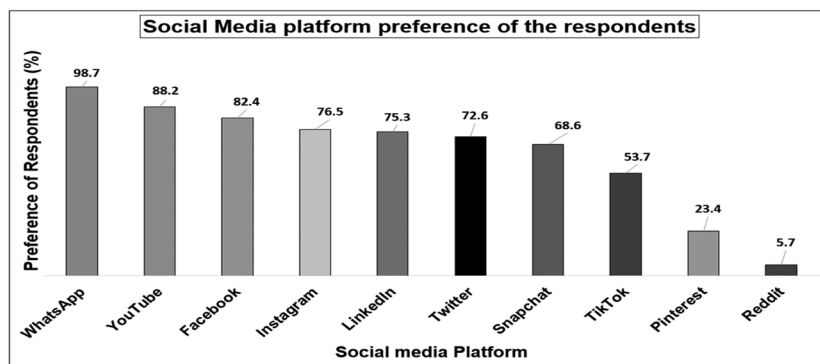


Figure 2. Social Media platform preference of the respondents

4.3.2 Interest attrition of customers

The majority of respondents reported an interest attrition of customers by watching advertisements on social media platforms, the most being on YouTube and Facebook and the least on Reddit (figure 3). The WhatsApp advertisements run on Facebook and Instagram, while the landing page is WhatsApp. Hence a lot of respondents complained that even their chats are not safe as keywords are sent to partner apps that show advertisements related to them. Herein lies the scope for the Start-ups to create groups and advertise on such different SMM platforms.

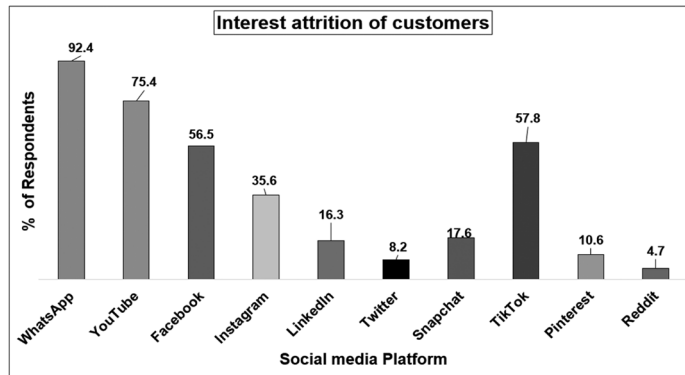


Figure 3. Interest attrition of customers

4.3.3 Advertisement pop-ups and interest of customers

A majority of the respondents (67.20%) acceded to the fact that pop-up advertisements on social media do not interest them and they have little influence on their buying decisions (figure 4). On the contrary these irritate them and they sub consciously a negative image about that product. Hence the start-ups should be mindful of this aspect and avoid advertisements through pop-ups on social media.

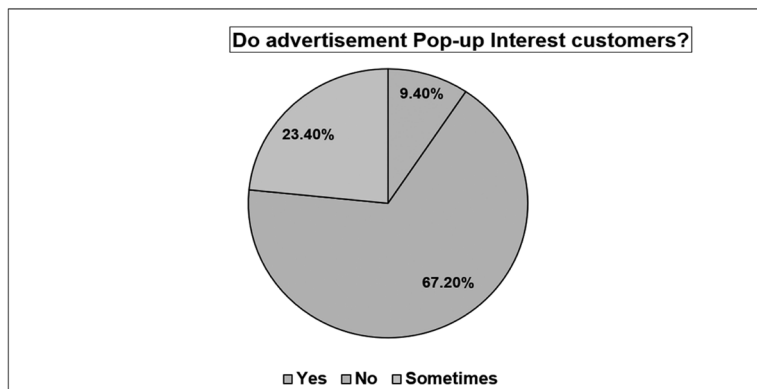


Figure 4. Impact of Advertisement Pop Ups on consumers using social media

4.3.4 Time taken by advertisements for creating first interest in customers.

A majority of the respondents (58%) agreed to the fact that it is only during the first 5 seconds that they become interested or disinterested in viewing the entire advertisement or not (figure 5).

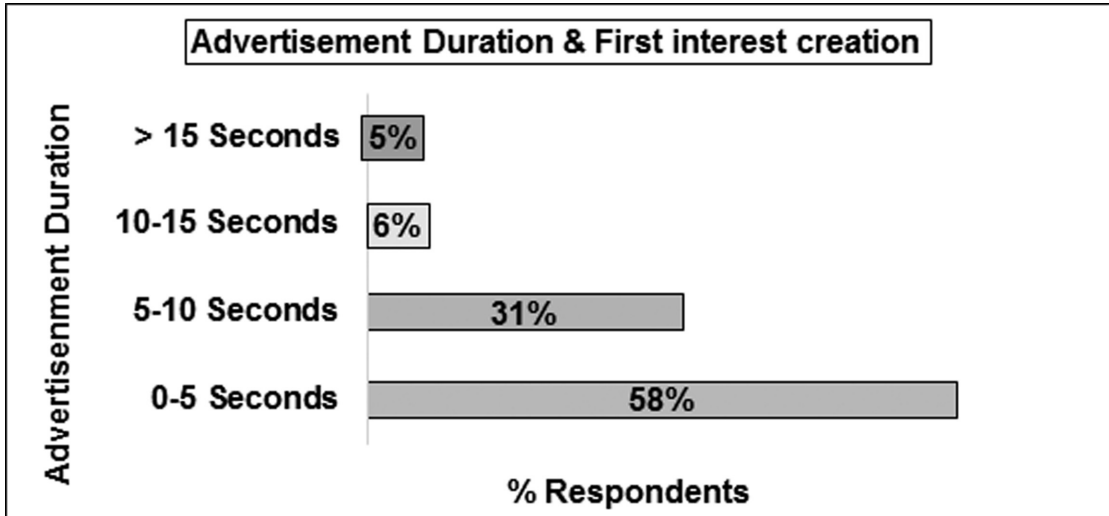


Figure 5. Time taken by advertisements for creating first interest in customers

This brief 5-second interval serves as the prime opportunity to gauge the impact of advertisements on capturing the attention of potential customers, enticing their interest in a product, and ensuring they watch the entire advertisement. This, in itself, plays a crucial role in the process of generating demand. The start-ups should be mindful of this important fact and design their advertisements accordingly.

4.3.5 Association between the brand preference constructed on social media and the actual product purchase.

To determine the association between the brand preference constructed on social media and the actual product purchase, a Chi square test was done. The Null (H0) and Alternative hypothesis (H1) were taken as below:

H0 (1): There is no substantial association between the brand preference constructed on social media and the actual product purchase.

H1 (1): There is substantial association between the brand preference constructed on social media and the actual product purchase.

The observed and expected values were calculated as shown in table 3.

Table 3: Chi square test table for association between the brand preference constructed on social media and the actual product purchase

Observed (O)					Expected (E)				(O-E) ² / E			
Actual Purchase					Actual Purchase				Actual Purchase			
Brand Preference		Y	N	T	Brand Preference		Y	N	Brand Preference		Y	N
	Y	340	616	956		Y	313.78	642.219		Y	2.190848	1.070423
	N	238	567	805		N	264.21	540.780		N	2.601802	1.27121
	T	578	1183	1761								

Where, Y = Yes; N = No; T = Total

Table 3a: Chi Square Value

Chi Square Value (X ²)	7.134284
Degrees of Freedom (df)	1
p value	0.007562

From the above analysis, it is clear that the chi square value is 7.134284 and its p value is 0.007562 which is less than 0.05 at 95% confidence levels. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted that “there is substantial association between the brand preference constructed on social media and the actual product purchase.” This means that majority of the respondents, who acquire a brand preference due to SMM, actually transpire buying the identical brand through social media websites. In other words, if individuals do not have a preference for a brand, they are unlikely to make a purchase, and conversely, if they do prefer a brand, they are more likely to make a purchase. Hence, social media has a significant impact on start-up entrepreneurs and marketers, compelling them to establish a strong online presence on social media platforms to cultivate brand preference for their products, ultimately leading to heightened sales.

4.3.6 SMM and predilection of specific brands endorsed on social media.

To determine the relationship between SMM and predilection of specific brands endorsed on social media, a Chi square test was done. The Null (H₀) and Alternative hypothesis (H₁) were taken as below:

H₀ (2): There is no substantial association between familiarity and predilection of specific brands endorsed on social media.

H₁ (2): There is substantial association between familiarity and predilection of specific brands endorsed on social media.

The observed and expected values were calculated as shown in table 3.

Table 4: Chi square test table for association between familiarity and predilection of specific brands endorsed on social media

Observed (O)					Expected (E)				(O-E) ² / E			
Brand Familiarity					Brand Familiarity				Brand Familiarity			
Brand Predilection		Y	N	T	Brand Predilection		Y	N	Brand Predilection		Y	N
	Y	316	640	956		Y	293.6945	662.3055		Y	1.694059	0.751218
	N	225	580	805		N	247.3055	557.6945		N	2.011826	0.892129
	T	541	1220	1761								

Where, Y = Yes, N = No

Table 4a: Chi Square value and p value

Chi Square Value (X ²)	5.349232
Degrees of Freedom (df)	1
p value	0.020731

From the above analysis, it is clear that the chi value is 5.349232 and its p value is 0.020731 which is less than 0.05 at 95% confidence levels. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted that “there is substantial association between familiarity and predilection of specific brands endorsed on social media.” This implies that lesser awareness of brands may cause lesser predilection for those specific brands and contrariwise. Therefore, SMM may be considered as an efficient tool for building familiarity and predilection of products and brands for the customers on the social media sites by the start-ups and other businesses.

4.3.7 SMM and gender-based influence on buying decisions of consumers

To determine the relationship between SMM and gender-based influence on buying decisions of consumers, a Chi square test was done. The Null (H₀) and Alternative hypothesis (H₁) were taken as below:

H₀ (3): There is no significant relationship between SMM and gender-based influence on buying decisions of consumers.

H₁ (3): There is significant relationship between SMM and gender-based influence on buying decisions of consumers.

The observed and expected values were calculated as shown in table 3.

Table 5: Chi square test table for relationship between SMM and gender-based influence on buying decisions of consumers

Observed (O)				Expected (E)			(O-E) ² / E		
	P	NP	Total		P	NP		P	NP
M	502	628	1130	M	522.9699035	607.0300965	M	0.840845426	0.724407
F	313	318	631	F	292.0300965	338.9699035	F	1.505792918	1.297274

Where, P = Purchase due to social media influence; NP = No purchase due to social media influence; M = Male; F = Female

Table 5a: Chi Square value and p value

Chi Square Value (X ²)	4.368319
Degrees of Freedom (df)	1
p value	0.036613

From the above analysis, it is clear that the chi value is 4.368319 and its p value is 0.036613 which is less than 0.05 at 95% confidence levels. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted that “there is significant relationship between SMM and gender-based influence on buying decisions of consumers.” More females are influenced into purchases due to SMM than males. The start-up entrepreneurs must take this into account and focus more on catering to female specific marketing campaigns, whilst improving ways to attract the attention of the male counterparts as well.

4.3.8 SMM advertisements and influence on authentic buying decisions of consumers

To determine the relationship between SMM and the authentic buying decisions of consumers, a Chi square test was done. The Null (H₀) and Alternative hypothesis (H₁) were taken as below:

H₀ (4): There is no significant association between consumers looking for information concerning a product/ brand on social media and their authentic buying behaviour regarding it.

H₁ (4): There is significant association between consumers looking for information concerning a product/ brand on social media and their authentic buying behaviour regarding it.

The observed and expected values were calculated as shown in table 3.

Table 6: Chi square test table for association between consumers looking for information on social media and their authentic buying behaviour regarding it

Observed (O)					Expected (E)				(O-E) ² / E			
	Product Purchase					Product Purchase				Product Purchase		
Brand Inform-ation		Y	N	Total	Brand Inform-ation		Y	N	Brand Inform-ation		Y	N
	Y	286	670	956		Y	263.8365	692.1635		Y	1.861845	0.709692
	N	200	605	805		N	222.1635	582.8365		N	2.211086	0.842814

Where, Y = Yes; N = No

Table 6a: Chi Square value and p value

Chi Square Value (X ²)	5.625437
Degrees of Freedom (df)	1
p value	0.017702

From the above analysis, it is clear that the chi value is 5.625437 and its p value is 0.017702 which is less than 0.05 at 95% confidence levels. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted that “there is significant association between consumers looking for information concerning a product/ brand on social media and their authentic buying behaviour regarding it.” This implies that the start-up entrepreneurs and businesses should have a dedicated section of marketing on social media and must follow the trend in buying behaviours, consumer preferences and demand creations. This should compose an important part of their overall marketing strategy.

4.4 Advantages and challenges of Social Media Marketing for start-ups.

4.4.1 Enhanced Brand Visibility:

Start-ups leveraging social media has witnessed a significant boost in brand visibility and recognition. Platforms like Instagram and Facebook allowed for visually engaging content that captured the attention of potential customers and created a strong brand identity.

4.4.2 Cost-Effective Marketing:

Traditional marketing can be expensive for cash-strapped start-ups. Social media marketing offered a cost-effective alternative, enabling businesses to reach a broader audience without breaking the bank.

4.4.3 Customer Engagement and Feedback:

Social media provided a direct channel for customer interaction. Start-ups could engage with their audience, respond to queries, and gather valuable feedback, helping to refine their products and services.

4.4.4 Data-Driven Decision-Making:

Social media analytics tools enabled start-ups to gather data on audience behaviour and preferences. This data empowered them to make informed marketing decisions and tailor their strategies accordingly.

4.4.5 Global Reach:

With the power of social media, even small Indian start-ups could expand their reach globally. This international exposure opened up new avenues for growth and collaboration.

4.4.6 Challenges and Risks:

While social media marketing offered numerous advantages, it also came with challenges, such as managing online reputation, handling negative feedback, and navigating the ever-changing algorithms of these platforms.

5. Conclusions

Based in the research results following conclusions were drawn:

- The majority of respondents preferred using WhatsApp, YouTube, Facebook, Instagram and LinkedIn the most and Pinterest and Reddit the least. The bulk of them reported an interest attrition by watching advertisements on social media platforms, the most being on YouTube and Facebook and the least on Reddit. Hence the start-ups should advertise and promote their products more on these social media.
- One of the most interesting results in this paper has revealed a 5 second window as the most optimal time range for determining the effectiveness of advertisements in influencing the minds of potential customers to become interested in a product and see the entire advertisement, which in turn would be a vital cog in the demand-creation process.
- The pop-up advertisements on social media do not interest the consumers much and they have little influence on their ultimate buying decisions. Hence the start-ups should be mindful of this aspect and avoid advertisements through po-ups on social media.
- There is substantial association between the brand preference constructed on social media and the actual product purchase.
- There is significant association between familiarity and predilection of specific brands endorsed on social media.

- There is significant relationship between SMM and gender-based influence on buying decisions of consumers.
- There is significant association between consumers looking for information concerning a product/ brand on social media and their authentic buying behaviour regarding it.
- This study clearly illustrates that social media marketing has a substantial impact on the success of start-ups in India. By enhancing brand visibility, reducing marketing costs, facilitating customer engagement, and providing valuable data insights, social media platforms have become indispensable tools for the growth and sustainability of these fledgling businesses. However, it is essential for start-ups to navigate the challenges and risks associated with social media marketing effectively. As the Indian start-up ecosystem continues to evolve, it is evident that those who harness the power of social media will have a competitive edge in the ever-expanding digital marketplace.

6. Practical implications

Based upon the literature review, SWOT Analysis and the questionnaire survey, some key practical implications for proper utilization of SMM for the growth of start-up businesses have been offered as listed below:

- There should be an option of skipping and closing advertisements promptly if the user is not interested.
- The viewing of advertisements should be optional on all social media. For example, for a premium account holder customer there should not be any advertisements at some extra cost recovered from the customer. This would also help the start-up businesses to better target their advertisements especially catered to the audience.
- Advertisements should be relevant, interesting and as short as possible.
- There should be restricted pop-up advertisements. It can frustrate the customer, especially when one has a slow internet connection. This can negatively influence the image of the product or service being advertised.
- The models or brand ambassadors of start-ups should be chosen very wisely. For example, the recent #Boycott trends associated with some Bollywood actors led to negative influence on some apps like PharmEasy and Snapdeal. Whereas brands like Amul without any star brand ambassadors are doing fine without any major controversy.
- There should be proper defined forums for business promotion on social media and somebody's privacy on social media should not be breached.
- The print and digital advertisements and other marketing tools should be catchy with the aim of attracting attention within 5 seconds of the start of the advertisement.
- All advertisements on YouTube videos should have a skip button without waiting for some seconds.

- SMM planning is a short term (average 2-3 months) and dynamic process. Hence, rather than elaborate marketing strategies, short term SMM should now be the preferred option.
- Start-ups nowadays are focusing more on profit maximization in the short run, rather than working towards demand creation in the long run. Whereas, demand creation should be their first priority. SMM can give a helping hand in this.
- The main aim of start-ups should be to make their potential customers get used to their products and services and to create a loyalty factor. This is where SMM can act as a viable option.
- SMM being more economical, is much easier to target a particular demography and geographical location, rather than traditional methods, like hoardings, sample techniques, etc.

7. Future scope of the research

This current research has wide ranging implications. The trends from this research can be used by start-ups for better utilization of SMM for deep penetration of the potential customer base. The SWOT analysis done here provides start-ups with a tool for efficient management of their financial, human and intellectual resources. The implications of the survey if used properly, would aid the start-ups to better understand the psychology of the customers and may utilize it at all stages of the business cycle from product improvements to charting unknown territories in marketing. Overall, the paper assumes importance as it presents both primary (questionnaire survey and interview of the entrepreneurs) and secondary research (literature review) for using SMM for aiding start-ups at all levels. This research may be expanded in future by including more respondents and start-up representations in the questionnaire survey.

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Evaluation of Professional Obstacles Faced by Working Women in the Education Sector: With Special Consideration of Jaipur Region

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Abstract

Despite recent progress, women still face challenges obtaining executive positions in education. Previous research identified distinct barriers, including gender stereotypes, work-family balance issues, human resource policies, access to networks, organizational culture, and heightened expectations for women. These barriers include factors such as gender stereotypes, challenges in striking a healthy balance between work and family life, human resource policies, challenges in gaining access to networks, organizational culture, and higher expectations for women to demonstrate their value. This can cause the perception of gender barriers to be different or have a different value. In this study, we construct a scale called "OIS-PME" ("Obstacles identifications and solutions during promotions to higher post in management in education sectors") to quantify the obstacles that stand in the way of women's advancement in management positions. The OIS-PME scale was constructed for a large sample (N=150) from the educational sector in Jaipur (India). The scale, which consisted of thirty items, was able to identify six dimensions. These dimensions were as follows: differential performance appraisal, gender stereotypes, work-family balance, motivational barriers, unfair human resource practices, organizational culture barriers, and barriers to accessing influential networks. The OIS-PME scale provides human resource managers with a useful instrument for conducting an analysis of the state of gender discrimination in their organizations and for putting into action the most effective policies and procedures.

Keywords: Working women, Career Obstacles, Educational Sector, OIS-PME.

1. Introduction

At this point in time, the roles that women play and the responsibilities that they share increased dramatically. The contributions that women make to the workforce are an essential element in the development of a nation. A country's total social, economic, and political achievements will come to a stop if there is a low participation rate of women in national activities. It is a belief that when employees are provided with equal opportunities and work in an environment that is free from discrimination, they report higher levels of job satisfaction, anticipate remaining with the organization for longer period of time, and are much more likely to recommend it to others as a place that offers rewarding employment. However, due to the significant gender gap in the workforce, women in India have limited access to possibilities that are even satisfactory to a little extent (S. Bohare, 2016, Huang et. al., 2019, M. Mahapatra, 2018).

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Women's professional growth has been the subject of research and debate in recent decades. As more women entered the workforce, organizations began implementing programs and policies to advance women. This tendency should persist. Governments have also developed laws, rules, policies, and recommendations to help people and organizations avoid unfair practices like employment discrimination against women and reap the benefits of a more diverse workforce. Gender wage gap is an example. The expression "glass ceiling" is used most often to describe the "invisible" obstacles women face at work (sticky floor, leaky pipeline, maternity wall). These "invisible" hurdles may manifest themselves in the form of corporate cultures, attitudes, and day-to-day implementations that remain biased towards women. Because of this, women often face challenges such as skeptical attitudes that call their competence and talents into doubt (Bruckmuller et al, 2013, Allen et al, 2016, Teelken et al, 2013).

Several studies investigate the causes of this gender gap, and specific theoretical frameworks provide a theoretical foundation for these studies. The studies have obtained socio-labor data from business registries using surveys, open or semi-structured interviews with a limited number of female and male managers, or open interviews with very few managers. Questionnaire research is growing. However, neither the theoretical frameworks nor the survey-based studies have produced a standardized questionnaire to comprehensively analyze the challenges women experience in an organization. Thus, the objective of this research is to create and validate a questionnaire that is appropriate, thorough, and easy to administer to assess gender barriers in a work organization and the types of hurdles to women promotion in each institution. The investigation's results also help evaluate outcomes and build employee-specific equal-opportunity actions. This study intends to summarize previous studies on the barriers to women and minorities obtaining top management roles, along with description of Scale elaboration, including item refinement. The research concludes with validation study results. The scale's internal structure, convergent and discriminant validity, and the correlations between these obstacles and organizational characteristics from earlier research led to these results (Hogue et al, 2007, Lyness et al, 2018, Kossek et al, 2017, Howe et al, 2016).

2. Literature Review

It has been shown via a variety of studies that women do not have the same status or privileges as males in the workplace, which leads to unequal treatment of women in the workplace. This has been shown to be both effective and obvious. As a result, women face challenges such as opinions that are doubtful and call their competence and talents into question (Cundiff & Vescio, 2016).

Women might struggle to obtain job in transportation like industries, especially in marine, port, inland waterway, civil aviation, road, and railway industries. Despite the fact that transportation jobs are high-paying, gratifying, and stable, female involvement is at an all-time low (Turnbull, 2013). Because of this, women's morale falls, which hurts the company's performance by underutilizing their potential (Pang & Huang, 2010). This also hurts women's motivation, work performance, and self-improvement. Women who think their work is worthless and undervalued are more inclined to rethink their priorities and quit their jobs (Ellemers, 2014). There has

been a considerable growth in women's access to the job market, their ascent to managerial positions, and the acknowledgment and enforcement of their equal opportunity rights during the past decades. All of them are noteworthy advancements. Despite the fact that the causes of gender inequality have diminished as a result of these achievements, prejudice against women continues to exist (Glass & Cook, 2016; Guadagno & Eno, 2010; Jonnergard et al., 2010).

There is still a substantial wage gap between men and women in the modern workforce. In 2016, the average wages of women in the European Union were 16% below those of men (Eurostat, 2013). Women continue to be underrepresented in the most prestigious occupations, to have the least attractive jobs, and to be subjected to the worst working conditions. In 2019, for instance, just 2.9% of corporate executives in Spain's IBEX 35 companies were female (EIGE, 2019). In light of this, Eagly and Carli (2007) propose a new metaphor they name "the labyrinth." This metaphor illustrates the reality that the path to leadership for women is convoluted and riddled with obstacles; it is a labyrinth from which it is difficult to escape. Using a labyrinth as a metaphor for the current leadership opportunities accessible to women is the simplest method to communicate this concept (Carli & Eagly, 2016). Women have less influence in the workplace, and their representation in positions of decision-making authority is disproportionately low. Consequently, it is still essential to perform an in-depth investigation of the factors that produce and continue to maintain this condition of inequality, as well as the methods that may aid in eradicating or lowering it (Barreto et al., 2008). Researchers and corporations alike have recently shown a growing desire to investigate this topic in greater detail.

Lyness and Grotto (2018) proposed the BAFFLE (Barriers and Facilitators of Female Leader Empowerment). Their top-down and bottom-up concept emphasizes underlying impediments and enabling variables from societal and cultural values, organizational, interpersonal, and intrapersonal levels. The authors consider external influences, such as society and business, as well as internal elements impacting organizations at different hierarchical levels (board of directors, senior management, middle management, groups and individual employees). This integrative approach does not provide a full taxonomy of obstacles (or facilitators), but it helps integrate the bulk of empirical research barriers into a common framework.

Nevertheless, there is a degree of consensus in the earlier research about the primary categories of obstacles that women face when trying to advance in their careers. The first kind of impediment to women's advancement is one that has to do with women's preferences in a career path and its growth (including skills, attitudes, and motivations). At the moment, the amount of training and experience that women have, or Arguments based on female incapacity are both out of date and politically inappropriate (Barber'a et al., 2011). However, women's lower levels of self-confidence, expectations of success, and lack of desire in pursuing management roles continue to have validity, as do women's lower rates of accessing management jobs.

Again, women's advancement impediments in the workplace collide. Work-life balance influences human resources policy and contributes to the upkeep of gender stereotypes. Even though women do not abandon their professions and desire professional progress as men

do, gender norms and stereotypes have an impact on firm owners' expectations of women's workplace involvement (Barber'a and Coord, 2005). Finally, sexual harassment in the workplace is a significant obstacle to long-term employment and management advancement for women. Howe-Walsh and Turnbull (2016) also cited discrimination and harassment by male colleagues, which might cause women to quit the workplace on occasion. Harassment is a criminal offense in most nations; thus, it needs addressal apart from progression limits for women.

Using the scale, we may identify the most significant constraints in each case and design targeted solutions to promote fair opportunity. We focus on Kossek et al. (2017) 's organizational challenges since our goal is to build a scale that can identify a certain organization's primary bottlenecks. Career pathways are influenced by organizational culture and women's access to strong networks. The term "gender bias viewpoint" refers to biased HR policies, unequal performance evaluations, and work-life balance concerns.

Practical/ Social Implication

The study's insights into the professional obstacles faced by working women in the education sector have profound practical and social implications. By identifying specific barriers such as gender stereotypes, work-life balance challenges, and organizational culture issues, the research provides a roadmap for educational institutions, human resource managers, and policymakers to develop targeted interventions. The OIS-PME scale serves as a valuable tool for ongoing assessment and can facilitate the implementation of gender-sensitive policies. Socially, the findings underscore the pervasive nature of gender discrimination in professional spheres and contribute to the broader dialogue on gender equality. By addressing these obstacles, educational institutions can create more inclusive environments, promote diversity in leadership roles, and foster a culture that recognizes and supports the unique contributions of women. Ultimately, such efforts align with broader societal goals of gender equity and social justice, reinforcing the importance of dismantling barriers that hinder the full participation of women in all aspects of professional life.

3. Material And Methods

A total of 200 participants working in a wide range of jobs from an educational group comprising of various separate educational organizations were requested to fill the questionnaire to help us create and evaluate our scale. The poll had 25% participation, with 15% of responses coming from the smallest firm, 30% from the mid-size firm, and 53% from the largest firm (2% of respondents did not indicate the company to which the employee belonged). These educational workers were divided into the following gender groups: 100% of those polled were female. Only 5% of individuals interviewed were under the age of thirty, while 50% were between the ages of 31 and 40, 40% were between the ages of 41 and 60, 5% were beyond the age of 60. We can be confident that each respondent understood each item since they were either native Hindi/ English speakers or had a high-level understanding of English. Table 1 contains the descriptive results for the survey data collected. For the descriptive calculations for the current data, JASP open-source statistical software was used.

Table 1 Descriptive results for survey question

Sr. No	Mean	Std. Deviation	Co. of variation	Kurtosis
Q.1 Do you give more importance to work over your personal and family life?	2.835	1.41	0.497	-1.257
Q.2 Is your employer satisfied with your work?	3.395	1.403	0.413	-1.186
Q.3 Does your employer provide sufficient leisure to the employees?	2.58	1.461	0.566	-1.229
Q.4 Do you receive salary on time?	2.89	1.344	0.465	-1.117
Q.5 Your salary is as per to the job profile and is not gender biased?	2.595	1.418	0.546	-1.158
Q.6 Do you get extra pay for overtime?	2.67	1.292	0.484	-1.051
Q.7 Are you satisfied with the increment given by your employer?	2.91	1.364	0.469	-1.206
Q.8 Do you regularly bring your work at home?	2.9	1.248	0.43	-0.882
Q.9 Do you get appraisal for your work from the employer?	2.99	1.403	0.469	-1.291
Q.10 Do you face that the work you do is not appreciated and someone else get credit of it?	2.795	1.405	0.503	-1.221
Q.11 Do you have to stay back for work after working hours?	2.98	1.393	0.467	-1.243
Q.12 Are you given multiple tasks by your employer at one time?	2.565	1.451	0.566	-1.225
Q.13 You feel overburdened, stressed and under pressure getting many tasks at a time?	2.715	1.274	0.469	-0.939

Q.14 You are free to share your views or ideas regarding the job with your employer?	2.96	1.41	0.476	-1.32
Q.15 You are comfortable to share your personal problems with your superior authority?	2.905	1.321	0.455	-1.117
Q.16 Your employer helps you in balancing the work and personal life by providing the suggestions?	2.5	1.33	0.532	-0.862
Q.17 Your employer allows you to use mobile phone during working hours?	2.835	1.445	0.51	-1.359
Q.18 Your employer allows you to go on half day easily for personal work?	2.925	1.393	0.476	-1.274
Q.19 Do you get holidays easily when needed?	3.15	1.355	0.43	-1.16
Q.20 Your colleagues helps you, when you are overburdened?	3.22	1.327	0.412	-1.085
Q.21 Your co-workers mistreat you?	2.83	1.375	0.486	-1.192
Q.22 When mistake is made do your superiors helps you to fix it?	2.82	1.325	0.47	-0.974
Q.23 Have you ever been victimized of politics in place of your work?	2.195	1.325	0.604	-0.659
Q.24 You get promotion chances time to time?	3.125	1.459	0.467	-1.373
Q.25 Due to excessive work, do you face health issues?	2.805	1.287	0.459	-1.003
Q.26 Have you ever faced the problem of sexual harassment at workplace?	2.845	1.446	0.508	-1.328
Q.27 Your problems resolved by the employer on time?	2.925	1.307	0.447	-0.997

For a better understanding of the survey, these twenty-seven questions were separated into three main components, which are listed below.

4. Result and Discussion

In this section, we will examine the descriptive statistical analysis that was done on all of the questions and data that were obtained from the participants. For the purpose of conducting an analysis about the significance of the study, the three parts that can be seen in table 2 were created. Factor one was related with work related questions to find the issues faced by working women. Second factor was Health Related questions and third section was related to Finance related questions.

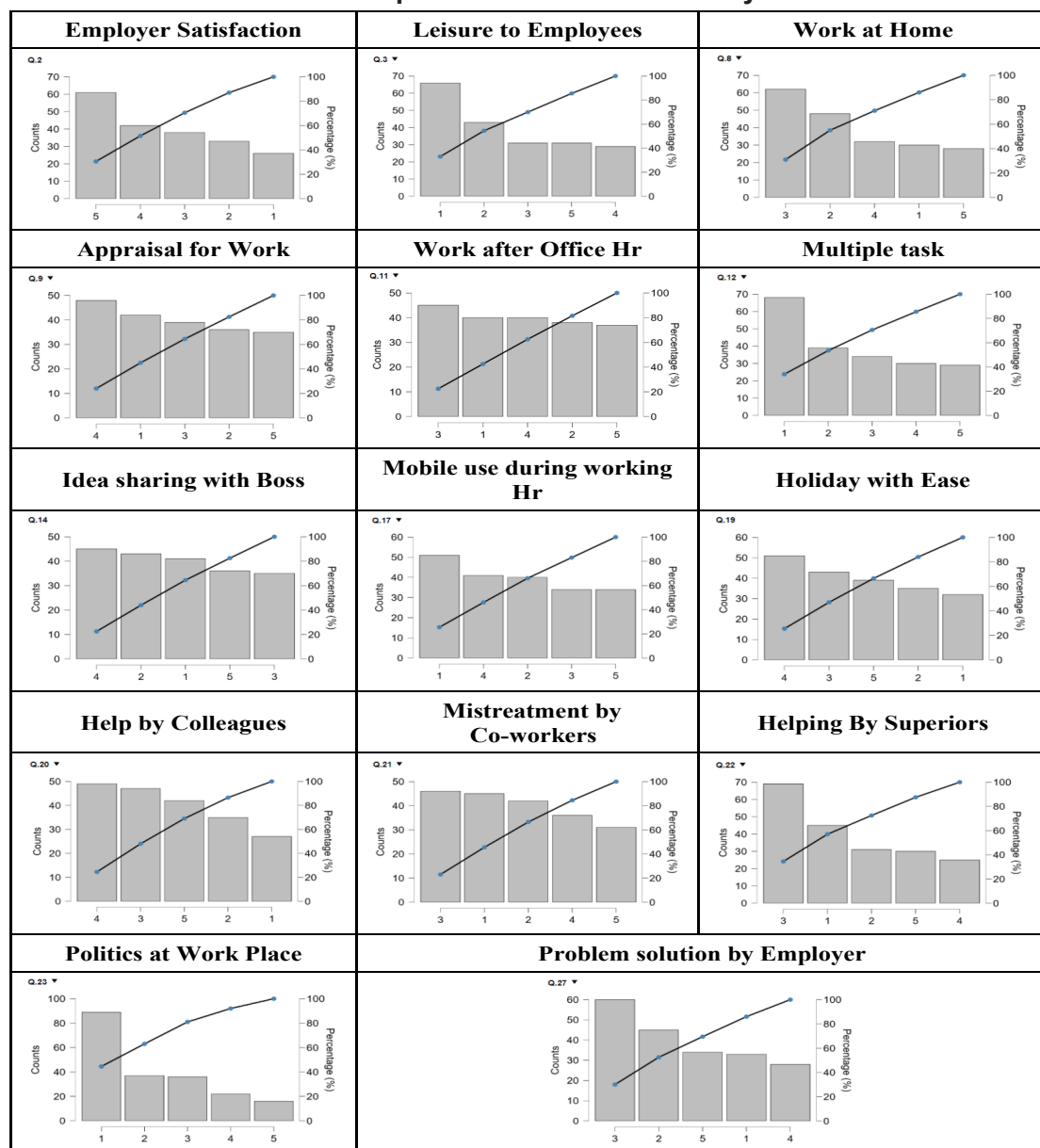
Table 2 Sub sections for the descriptive statistical analysis of the data

S.No	Factor 1: Work Related Questions
1	Employer Satisfaction
2	Leisure to Employees
3	Work at Home
4	Appraisal for Work
5	Work after Office HR
6	Multiple task
7	Idea sharing with Boss
8	Mobile use during working HR
9	Holiday with Ease
10	Help by Colleagues
11	Mistreatment by Co-workers
12	Helping By Superiors
13	Politics at Work Place
14	Problem solution by Employer
	Factor 2: Health Related Questions
1	Life vs Work
2	Tension due to less credit
3	Stress due to Work
4	Stress due to not share with Boss
5	Balance with Life and work
6	Promotion and Hope
7	Sexual Harassment
	Factor 3: Finance Related Questions
1	Salary on Time
2	Salary as per Work not Gender biased
3	Overtime and Extra pay
4	Increment and Satisfaction
5	half Day w/o pay cut
6	Promotion and Time

4.1 Work related barriers for working women

In this section, a total of 14 questions were deemed suitable for the descriptive statistical analysis, and the answers to these questions can be found in table 3, which was also included in this section. Pareto plots are useful tools for determining which participant response to a survey had the highest average rating.

Table 3 Pareto plot for work related survey results



In accordance with the findings of a survey, Pareto charts are helpful in determining which elements are the most essential and which are the least significant. As can be seen in table 3, the Pareto chart for Question 2: Employer Satisfaction shows that the majority of participants strongly agreed with this question. This indicates that the majority of employers were pleased with the performance of their employees. However, the participants gave the least importance to the strongly disagree point for Question 2. It was decided to use the same process for answering each of the questions that were chosen for the Work-Related Survey Results. The findings of the question “Q3: Leisure to Employees” indicate that the vast majority of respondents do not agree with the conclusions drawn from the question. During the questionnaire, the vast majority of participants gave responses that indicated they strongly disagreed with the following questions on work-related difficulties.

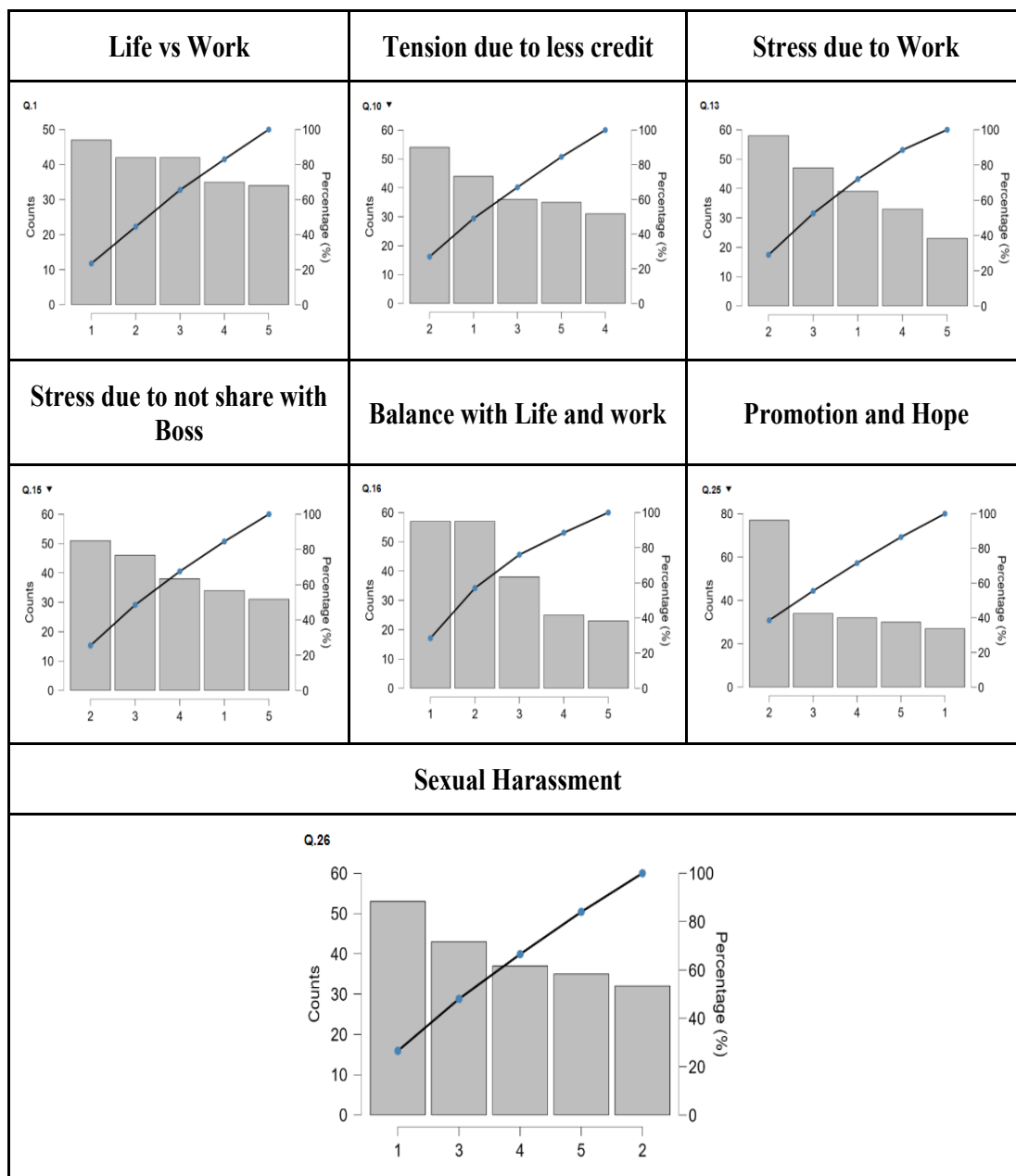
- Leisure to Employees
- Multiple task
- Mobile use during working Hr
- Politics at Work Place

4.2 Health related barriers for working women

In this part, a total of seven questions were considered appropriate for the descriptive statistical analysis. The table 4, which was also included in this section, contains the responses to these questions. For the purpose of assessing which participant response to a survey received the highest average rating, Pareto plots are important tools to have on hand. As seen in table 4, the strongly disagreed question related to health of the participants were present here.

- Life and Work balance
- Balance with Life and work
- Sexual Harassment

Table 4 Pareto Plot for Health Related Survey Results

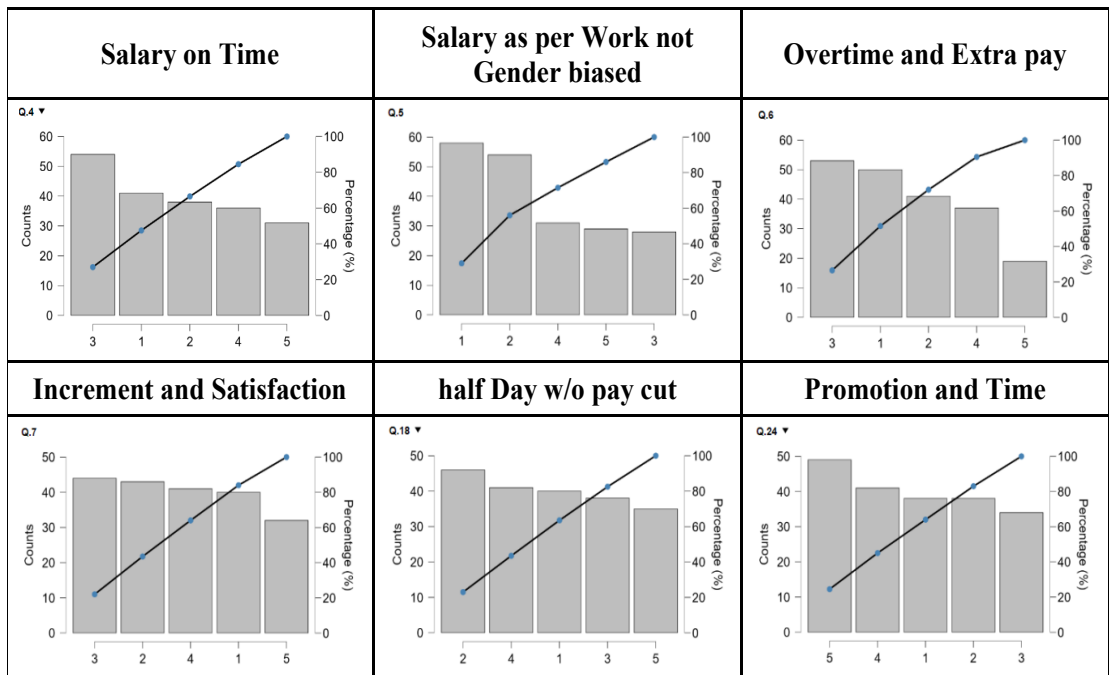


Despite the fact that the survey was focused on the education sector, the majority of the participants did not share a consensus on the sexual harassment they experienced on the job.

4.3 Finance related barriers for working women

For the purpose of this section of the descriptive statistical analysis, a total of six questions were deemed relevant. The answers to these questions may be found in table 5, which was a part of this section as well. For the aim of determining which participant response to a survey was awarded the highest average rating, having access to the appropriate tools, such as Pareto plots, is essential. As can be seen in table 5, the participants strongly disagreed with the issue that was connected to finances. These answers were given here.

Table 5 Pareto plot for finance related survey results



5. Principal Factor Analysis (PFA)

In addition to that, the primary factor analysis was carried out for this study. In addition to that, the results of the chi square test can be found in table 6. It can be observed from the table that both the df and the p-value suggest that the survey was successful in its application to this particular research project.

Table 6 Chi-Squared test for PFA

	Value	df	p
Model	464.885	163	< .001

Component loading and scree plots for the PFA was present in table 7 and figure 1, which show the variance decrement as the component increment for the survey data.

Table 7 Component Loading for the Questions using PFA

	RC1	RC2	RC3	RC4	RC5	RC6	RC7	RC8	Uniqueness
Q.14	0.542								0.492
Q.26	-0.494								0.636
Q.25	-0.468								0.713
Q.19	0.442				0.413				0.601
Q. 9	0.439								0.531
Q. 3		0.736							0.395
Q.12		-0.546							0.576
Q. 6			-0.699						0.424
Q. 2			0.549						0.512
Q.10			0.532						0.494
Q.21				0.674					0.485
Q. 4				-0.51					0.652
Q. 5				0.468					0.439
Q. 8					0.758				0.409
Q.13					0.447				0.604
Q. 1						-0.725			0.434
Q.16						-0.517			0.434
Q. 7						0.46			0.601
Q.27							0.632		0.53
Q.15							0.426		0.563
Q.20								0.752	0.416
Q.11									0.711
Q.17									0.725
Q.18									0.583
Q.22									0.619
Q.23									0.841
Q.24									0.712

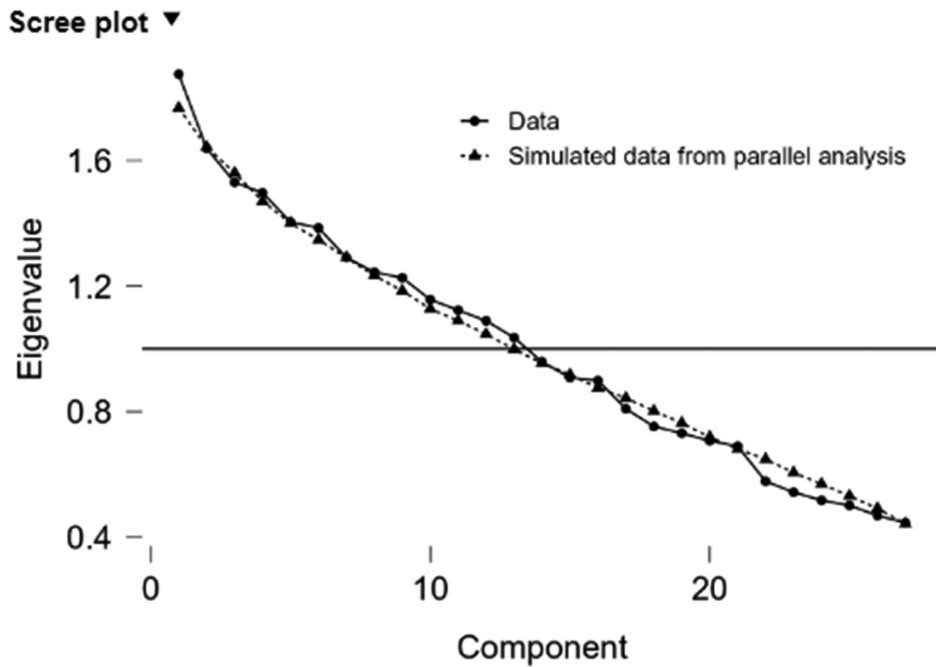


Figure 1 Scree Plot for the Survey data collected from participants (N=200)

Table 8 Component characteristics analysis using PFA

Component	Unrotated solution			Rotated solution		
	Eigenvalue	Proportion var.	Cumulative	Sum Sq. Loadings	Proportion var.	Cumulative
1	1.875	0.069	0.069	1.669	0.062	0.062
2	1.639	0.061	0.13	1.562	0.058	0.12
3	1.531	0.057	0.187	1.539	0.057	0.177
4	1.497	0.055	0.242	1.45	0.054	0.23
5	1.404	0.052	0.294	1.423	0.053	0.283
6	1.385	0.051	0.346	1.422	0.053	0.336
7	1.291	0.048	0.393	1.405	0.052	0.388
8	1.244	0.046	0.439	1.395	0.052	0.439

6. Conclusion

Understanding the systemic impediments hindering women's advancement in educational administration jobs has been significantly advanced by the current research. Using a 30-item scale encompassing the OIS-PME, we found and quantified a framework of seven essential aspects that impede the career advancement of women. Differential performance appraisal, gender stereotypes, work-family balance, motivational hurdles, unfair human resource practices, organizational culture barriers, and barriers to accessing powerful networks are some of the aspects revealed by principal factor analysis. Notable is the fact that these aspects corroborate previous research and provide meaningful recommendations for the Jaipur education system. The OIS-PME scale's strength rests not only in its diagnostic skills, but also in its applicability for human resource managers seeking to develop more equal policies. This scale permits the evaluation of organizational climates and can influence the implementation of anti-discrimination actions at various organizational levels. The internal consistency of the parameters of the scale further verifies its dependability as an evaluation instrument. Importantly, our findings showed a substantial correlation with ideas of organizational justice and labor outcomes, confirming that removing these identified obstacles has broader implications for constructing a fair workplace.

However, it is essential to recognize the limitations and future research needs. Among other topics, the study uncovered the most divergent opinions regarding work-life balance, mobile use during work hours, and sexual harassment. These controversial regions reveal intricate interactions between organizational norms and human behavior, which may necessitate additional, qualitative research in the future. The study functions as both a mirror and a path map by revealing these specific concerns. It depicts the existing inequities in the Jaipur education sector and provides transformative parameters. As a result, the OIS-PME scale is not only an intellectual exercise but also a pragmatic tool for society transformation. It provides organizations and politicians with a prism through which they may reevaluate and alter existing systems to establish a fairer environment for women in educational management.

7. Future Scope and Limitations

Expansion of Geographical Reach: The study can be extended to other regions in India or even globally, allowing for a comparative analysis of gender barriers across different cultural and institutional contexts. The investigation can be broadened to include diverse sectors analysis i.e. various professional sectors beyond education, providing a more comprehensive view of the challenges women face in the workforce. Future research might consider a longitudinal approach, tracking changes in perceptions and realities of gender barriers over time. Future studies could also perform integration with intervention strategies i.e. examine the effectiveness of different policies and interventions aimed at mitigating these barriers, using the OIS-PME scale as a tool for measurement and evaluation. Including the perspectives of men in similar positions could offer additional insights into gender dynamics and biases in the workplace.

The limitation observed during the presented study are the geographical limitation, sample size, potential bias in responses, lack of depth in certain areas, overlapping barriers. The focus

on Jaipur may limit the generalizability of the findings to other regions or cultural contexts. While the sample size of 150 is substantial, a larger and more diverse sample might yield more nuanced insights. The reliance on self-reported measures might introduce bias, as participants may respond in a manner they perceive as socially desirable rather than entirely truthful. The study identifies broad categories of barriers but might not delve deeply into specific nuances or underlying causes of each. For example, organizational culture barriers could encompass a wide variety of issues that might require more detailed exploration. Some of the identified barriers may overlap, making it difficult to separate and analyze them distinctly. For instance, challenges related to work-family balance might be closely tied to organizational culture.

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The Impact of High Performance Work Systems and Employee Engagement

Dr. Pooja Nagpal¹

Abstract

The business leaders in the pursuit to contest successfully post Covid volatile world, have opted to cut the cost of labor by encouraging employees to work from home or hire part time, contractual employees to evade costly fringe benefits along with adopting lean and mean management tactic to run their organizations. Though it is irrational for corporations to spend money imprudently in handling employees, an emergent body of research provides evidence along with confirming that “High Performance Work Systems” (HPWS) are worth the investment of time and effort to retain employees in organization. HPWS are unique set of complementary Human Resource Practices (HRP) directed at empowering employees to contribute positively towards Employee Engagement (EE). The need of an hour is to align HRP in an organization to treat the personnel as the valued owners and partners to add value and optimizes prospects to generate and preserve competitive advantage. HPWS promotes creating trust worthy partnerships with employees that build commitment and engagement for success in the contemporary organization. Drawing from foundations of the Social Exchange Theory (SET), this study aimed to investigate the relationship between HPWS and EE. A structured questionnaire was used with reliable tools from literature and distributed to employees, working at an executive level position and having work experience above five years in IT Industry from 135 employees. The study found a positive impact of perceived HPWS on EE. The study further discusses the theoretical contribution and managerial implications along with contributing to the literature of HPWPs and EE.

Keywords: *High Performance Work Systems, Employee Engagement, Social Exchange Theory*

1. Introduction

Plenteous HRP have been evolved to improve EE in the knowledge intensive sectors and one such practice is HPWP, which has received pronounced attention by corporate and academic critiques. HPWPs are a blend of assorted but integrated HRM practices, proposed to configure the HRM system within the organization to enhance EE. Kahn., (1990) asserted “engagement as a drive seen in the employees as they instinctively embarked their inner resources and they contribute towards the organization through their job performance”. Few studies by Schaufeli, (2012); P.Nagpal & A C Kumar., (2020) stated the employees highly engage themselves with work when they are content, motivated and committed thereby leads to identification of themselves with the organization to perform with extra work seen in their behavior and they are unwilling to leave the organization. Thus to improve the quality and productivity thorough their job performance, HPWPs need to be provided to the employees. Karatepe (2013) in study tested that HPWPs determine the EE and engaged employees go one step ahead to contribute to the success of organization. The other study conducted by (Bond, 2004) states HRM practices

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provide organization with a competitive edge in all the three types of business environment like local, international and global. The outcome of these practices also leads to enhanced job satisfaction, low intention to quit by employees and also increased the organizational success. The IT industry is HR intensive sector and the intrinsic focus is on the employees, thus individual involvement in delivering the outcome lies solely on them. To get the employees engaged, the organization should develop HPWPs as a loop of outcome. A series of report at the global level suggests low levels of EE. A research in USA Corporate found an average loss per disengaged employee is about \$3400 a year if the employee draws a salary of around \$10,000 per annum or 34% of the salary drawn but contradictory the engaged employees always goes an extra mile to accomplish their job goals, thereby aligning personal and organizational objectives and outcomes through holistic approach (David, 2014).

2. Theoretical Background and Hypotheses

2.1 High Performance Work Systems

High Performance Work Systems (HPWPs) refer to a set of HR strategies and practices intended to maximize the employee efficiency, productivity and engagement thus leading to overall organizational success. These practices normally comprise of providing employees with prospects for skill development, involvement in decision-making, and autonomy in their tasks (Gilman and Raby, 2013). HPWPs also accentuate effective communication, regular performance feedback, and recognition of employee contributions (Arthur.,1994). By fostering a positive work environment that values employee well-being and growth, organizations adopting high-performance work practices can achieve improved job satisfaction, higher levels of innovation, and increased competitiveness in their respective industries (Gilman and Raby, 2013). These HRM practices influence each other and create a synergy to gain trust and importance's of employees in the organization. According to (N Rajput, et al., 2021) various HRM practices in an organization are a set of unique but interrelated functions, actions and methods leading to draw, develop and retain the firm's intellectual capital. (P.Nagpal., 2022) stated various HPWPs like training and development (T&D), rewards linked pay, empowerment, authority, increases employee's skills, thus paving an way for them to attain higher level of yield. The present study adopted eight HPWPs like recruitment and selection, T&D, performance appraisal, compensation management, rewards, teamwork, recognition & feedback.

2.2. Employee Engagement (EE)

There is a lot of habola for term Engagement in the field of management in current years. (Kahn., 1990) was the pioneer to coin the term engagement, he attributes it has a motivational and spontaneous expression of an employee's internal resources towards the contribution of their job performance in their organization. (Salanova et.al, 2012) state EE as a gratifying and constructive approach adopted by an employee's towards their work through "dedication, vigor and absorption" thus engaged employee shows characteristics as energy, motivation and enthusiasm towards their work. (S. H. Abbas., et al., 2023) in their study found EE as a component of everyday behavior, emotional and thought process aspects which include employee's intensity, effort and concentration at work, their effort to stick on tasks and seize the opportunity available to proposer at job. (The National Leadership Council., 2010), affirmed

engaged employees are constantly motivated beyond potentials and have high obligation to serving on to their organizations for a elongated years. Employees also exhibit a robust emotional and rational commitment to their organizations, translating into exceptional client service.

2.3 High Performance Work Systems and Employee Engagement

Plethora of research proves HPWPs strategies are used to enhance EE and also studies provide strong positive relationship between the two. (Karatepe, 2012) found in the study, HRM practices like T&D, reward system and empowerment were measured as strong indicators of engagement. One more study done by (P. Nagpal & Kiran Kumar., 2020) found HPWPs like authority, information and rewards drive engagement at workplace. (Gupta & Sharma, 2016) found the HPWPs like being valued, considering an employee while taking decision their say, taking care of their developmental opportunities leads to engagement. Boselie et al., (2005) found in their research in hotel sector variables like inter department training, empowerment and job rotation as few of the indicators of HPWPs which were crucial in this service intensive sector. These factors were stimulating EE and various outcomes leading to organizational success.

2.4 Social Exchange Theory (SET)

SET is a sociological theory that revolves around the notion that individuals engage in social interactions based on the expectation of gaining rewards and evading costs. This theory emphasizes the view of reciprocity, where people expect that their actions will lead to positive outcomes. It explores how relationships are built and maintained through a balance of giving and receiving, with the expectation that both parties the employer and the employee benefit. Social Exchange Theory also delves into the dynamic between relational satisfaction and the perceived fairness of exchanges. This is how HPWPs and EE are based on the reciprocal relationship between the two and the same is stated in the study of (Blau, 1964). The theory states about the reciprocal relationship an employee develops in the form of work related behavior, when they perceive that the organization favors them. Thus when an organization adopts various HPWPs as an investment and inducement strategy these signals are passed to the employee and they are motivated to exhibit work related behavior and value their organization, this in turn paves a way to increase employee engagement. Another study done by (Masterson, et al., 2000), states employees are likely to be actively engaged and committed towards their organization, when they perceive, organization provides them with HPWPs practices that suit their requirement. Fletcher (2015) argued that some employees in the organization expect on “give and take” policy from the management. This way the principle norm of reciprocity relationship is evolved among parties and this is also the principle of SET. Based on the gap the conceptual model is developed.

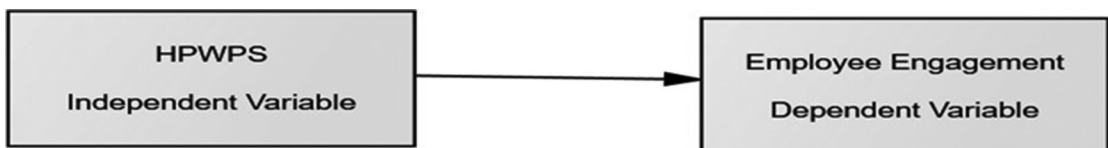


Figure 1: Authors Conceptual Model

3. Objectives and Hypothesis

Based on the literature review, the research objectives and hypothesis to meet these objectives was formulated.

3.1. Objective:

- To study the association between HPWP & EE
- To study the impact of HPWPs on EE

3.2. Hypothesis:

- H0: There is no positive association between HPWP & EE

H1: There is positive association between HPWP & EE

- H0: There is no impact of HPWP on EE

H1: There is an impact of HPWP on EE

4. Research Methodology

4.1. Research Design

The research employed a quantitative non-experimental research design, as it did not involve manipulation of variables. Utilizing a cross-sectional and correlation approach, the study collected primary data from the selected sample using reliable instruments.

4.2. Sample

The data was collected from few IT Companies from Bangalore, India. There were around equal number of respondents, between the age group of below 30 around 72, and above 40 around 63, total 135. The respondents held education qualifications like degree, graduate & post graduate degrees. The respondents work experience was above 5 years and below 10.

4.3. Research Instrumentation

The study had eight variables leading to HPWPs as stated above with 37 statements and employee engagement had consisted fourteen statements. The respondent's perceptions were captured by five point Likerts rating scale from 1-strongly disagree to 5- strong agree on Likert scale. Apart from these the demographic variables were also sort.

4.4. Validity and Reliability

In this study, SPSS 23 is made use for execution of validity and reliability test. Cornbachs alpha used to check this and the results stated in table no 1.

Table 1: Reliability of Data

Variable Name	N	No of Variables	Number of Items	Cronbach's
HPWPs	12	8	37	0.901
EE	12	1	14	0.939

5. Results and Discussion

Correlation and regression analyses were employed to assess the hypothesis, which explores the connection between High-Performance Work Systems (HPWS) and job engagement. The ensuing table presents the outcomes of these analyses.

5.1. Correlation Analysis

Table 2: Karl Pearson's Correlation Coefficient

Variable	Correlation Coefficient	Sig.
HPWPs ↔ E E	0.538	0.000

The interpretation of data in table 2 reveals, the calculated correlation coefficient between HPWPs and E E is both positive and statistically significant at a 1% significance level. This underscores a significant and positive correlation between HPWPs and EE of 0.538.

5.2. Regression Analysis and ANOVA Test

Table 3: Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.538	0.290	0.284	8.856

Table 4: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
	3779.394	1	3779.394	48.192	0.000
Residual	9254.073	118	78.424		
Total	13033.467	119			

The impact of HPWPs as an independent variable on EE as a dependent variable is explained through regression analysis, showcased in tables 3 and 4. The p-value denotes the level of significance; when it's $P < 0.05$, it indicates a statistically significant relationship at 5%. When the p-value is 0.01 it signifies an exceptionally significant relationship at 1%. In this context, the p-value is 0.00, signifying an extremely significant relationship. The F value gauges the strength of the connection between HPWPs and EE; in this case, F equals 48.192, representing a robust relationship. The R² assesses model fit and is generally deemed satisfactory if above 0.25; here, it's 0.29, indicating a well-fitting model. Consequently, this underscores that HPWPs substantially and positively impact EE, with HPWPs accounting for 29.0% of the variance in EE.

6. Conclusion

The study established a connection between HPWPs and EE, guided by the SET. The outcomes of this research provide empirical support for the correlation between HPWPs and engagement within the IT industry. These findings align with prior research, grounded in SET that also identified a link between HPWS and EE (Zhong et al., 2016). Moreover, the study's findings stated that employees who perceived HPWPs of the employer tend to experience additional engagement, subsequently leading to enhanced performance. Thus the study contributes to the existing literature and advances the theoretical framework of SET, offering distinctive insights tailored to IT firms operating in the Indian context. In future the study could be undertaken by longitudinal data collection instead of cross sectional to get a different perspective of the outcome.

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Consumer Behaviour Towards Durable Goods In Urban India: A Changing Landscape

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Dr. Shilu Varghese²

Abstract

The Indian consumer durable industry operates in a competitive, complex, highly volatile business environment. Consumers' buying behavior is divergent, situational and changed ever since India liberalized its economy. Business managers of consumer durables cannot ignore the importance of considering handy, accurate, consistent data and information about consumer behavior to establish, nurture, and manage customer value across all product segments. They are interested in the product but also the behavior of the consumers because it gives them the right orientations for product development and positioning. This paper attempts to study, in general, the consumer durable industry of India and, specifically, consumer purchase behavior towards television, which was chosen to represent the consumer durable markets in the urban district of Bangalore in Karnataka. This research finds that the purchase decision for television is affected by special attachments, sound quality, picture quality, ease of operation, after-sale service, and brand name. It is also found that age, education, and income influence brand usage and preference.

Keywords: Consumer behavior, Durables, White goods, Brown goods, Consumer electronics

1. Introduction

1.1 Consumer durable goods

Customer purchases made with longevity in mind are called "consumer durables." In contrast, fast-moving consumer goods (FMCGs) are created with a shorter lifespan in mind. The average lifespan of a consumer durable is three to five years (Jayakumar, 2010). The consumer durable goods can be classified as follows: The two most common categories of durable goods are consumer electronics and home appliances. White goods and brown goods are the two most common categories of home appliances. Appliances that fall under the category of 'white goods' include stoves (British cookers), coolers, freezers, washers, dryers, dishwashers, air conditioners, and microwaves. These large home appliances are typically only offered in a stark white finish.

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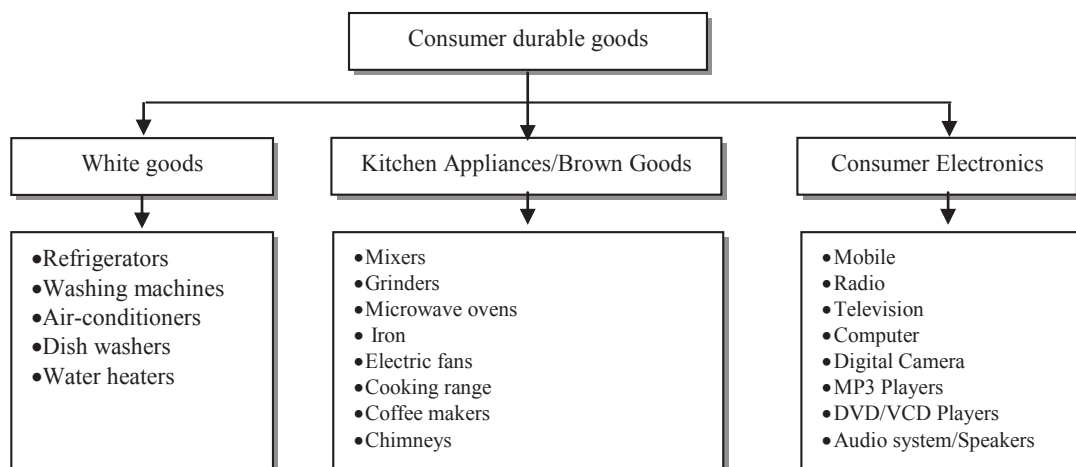


Figure 1: Consumer durable goods

Source: www.ibef.org

While these machines can be found in various colors, 'white goods' is commonly used to describe them all. The brown goods on the other hand means inexpensive consumer electronics because of their distinctive brown cases, typically constructed of wood or Bakelite. Computers, radios, and televisions are all considered 'brown goods' due to their portability and lack of a metal casing. Brown products also include digital media gadgets and game consoles. Consumer electronics can also be referred to as lightweight electronic durables. White appliances are bulky and stationary in comparison to their brown counterparts. Except for electronic devices like TVs and stereos, brown goods can be shipped. White and brown appliances have the same electrical needs. They enhance our lives and help us get more done in less time. (Market Business News, 2020).

1.2 Consumer durable Industry of India-Size, trend and growth

The consumer durables industry has been booming in recent years as a result of rising wages and disposable income, more accessible financing, increased consumer awareness and the introduction of innovative new products, the emerging retail boom, surging demand for homes and commercial real estate, and a generally more prosperous populace. Companies such as BPL, Videocon, Voltas, Blue Star, MIRC Electronics, Titan, Whirlpool, and others are examples of multinational and domestic powerhouses in this area.

The consumer durables sector is characterized by the emergence of MNCs, exchange offers, discounts and intense competition. The penetration level of consumer durables is low in India compared to other countries like China and global average (see Fig. 2) and still lower in rural India compared to urban area (see Fig. 3). An important factor behind low penetration in rural India is poor government spending on infrastructure, like, electrification programmes. This discourages the consumer durables companies to market their products in rural areas. Rural areas have penetration level of only 2 percent and 0.5 percent for refrigerators and washing machines, respectively. The annual growth rate of the urban and rural markets is 7-10 percent and 25 percent, respectively.

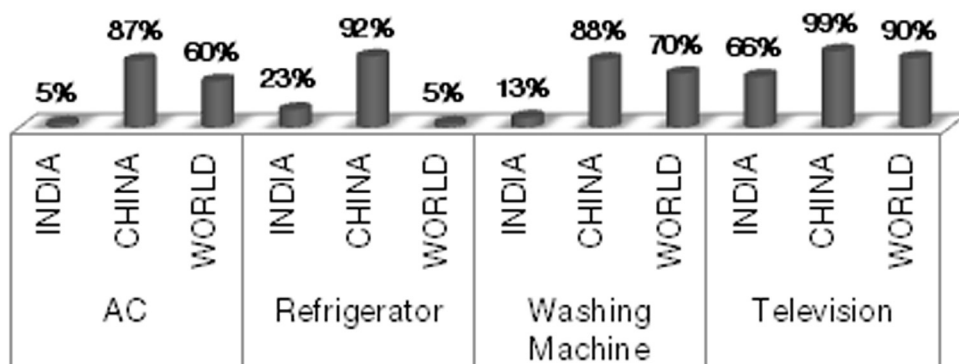


Figure 2: Penetration of Consumer Durables (Source: Nirmal Bang Report, August 29, 2019)

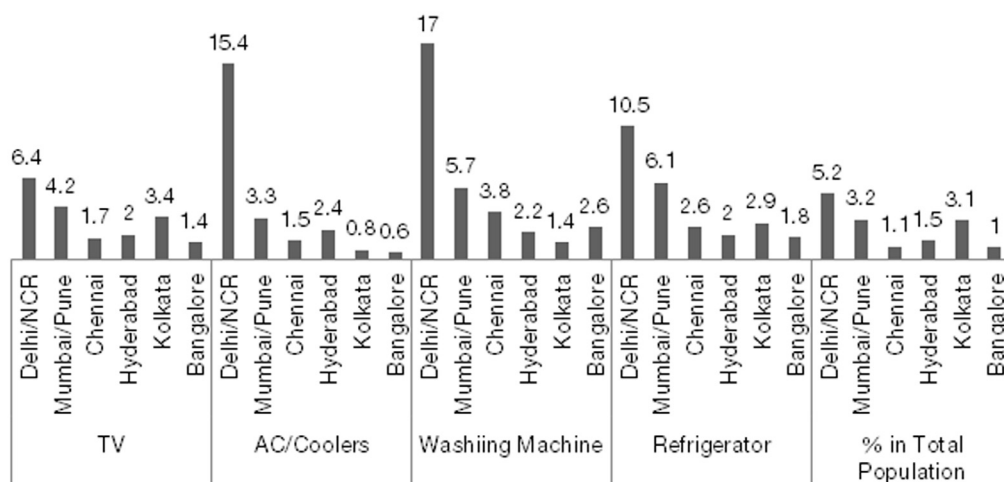


Figure 3: Penetration of Consumer Durables in six major urban areas (Source: NFHS Unit-level Data, Mint Research)

Before the Indian economy was liberalized, small businesses controlled approximately 90% of the consumer durables industry. Kelvinator, Godrej, Allwyn, and Voltas were among them. Companies from other nations entered the market after it was opened up, including LG, Sony, Samsung, Whirlpool, Kelvinator, Daewoo, and Aiwa. MNCs currently account for approximately 65% of the global consumer durables market. (Jayakumar. 2010).

Deloitte predicts that in 2030, India will have the world's largest middle-class consumer market, with total consumer spending of over US\$ 13 trillion (Sarangi, n.d.). In 2023, India's GDP per person will rise to US\$ 3,273.85 from 2012's US\$ 1,983. Customers will most likely spend money on groceries, furniture, cars, and mobile plans.

The consumer durables industry is expected to rise to \$20.62 billion by 2020, up from a valuation of \$15 billion in May 2017. India's urban markets contribute 65 percent of the industry's entire revenue. In FY19, the Indian appliance and consumer electronics (ACE) industry reached Rs 76,400 crore (US\$ 10.93 billion), with local manufacture contributing Rs 32,200 crore (US\$4.61 billion). The home appliance and electronics market is expected to double by 2025, reaching Rs 1.48 lakh crore (US\$21.18 billion).

India's white goods sector is highly consolidated. As of FY18, the Indian markets for washing machines were valued at around Rs 7,000 crore (US\$ 1.09 billion), freezers at around Rs 19,500 crore (US\$ 3.03 billion), and air conditioners at around Rs 20,000 crore (US\$ 3.1 billion). The top five manufacturers control more than 75% of the washing machine and refrigerator markets and 55% to 60% of the air conditioner and fan markets. On the other hand, the brown goods (kitchen appliances) market is highly consolidated, with only five companies owning a combined 35% of sales. Some of the prominent players in the consumer durables industry are Blue Star, Daikin, Hitachi, Godrej, LG, Onida, Philips, Samsung, Sony, Videocon, Whirlpool, TTK Prestige, Bajaj Electricals, Hawkins, and others. Figure 4 depicts the share of the durables market that each firm owns.

Market Share of Select Companies

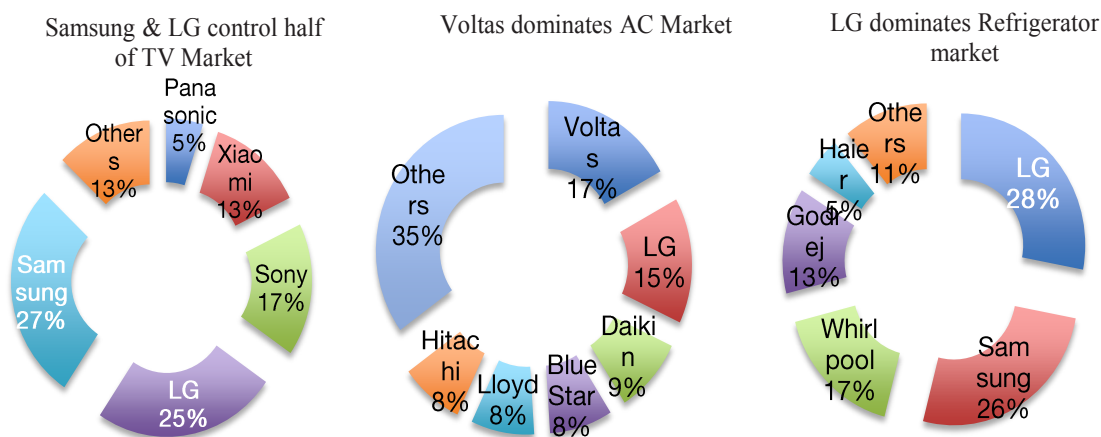


Figure 4: Consumer durables market shares of select products (Source: JP Morgan, TechNavio, Spark Capital estimates, E&Y analysis)

In 2018, foreign-made appliances comprised 20% of the local market for washers and fridges and 30% for air conditioners. By FY22, the Indian television market is predicted to be worth Rs 1,22,734 crore (\$17.56 billion). An Omidyar Network study found that mobile phone coverage in India would increase from 65-70% in 2017 to 85-90% in 2020. The smartphone market in India grew by 14.5% in 2018, compared to the previous year, with 142.3 million units sold. This represents a near 25% penetration rate. The number of Smartphone users in India is expected to reach 829 million by 2022. It was estimated that India would manufacture about 302 million devices in 2019.

In fiscal year 2019, India earned Rs 3,154.06 crore (US\$ 451.29 million) from consumer electronics exports. The S&P BSE Consumer Durables Index is up 6.8 percent in Jan 2020 and gained 32.1 percent in one last year. Consumer durables index under the Index of Industrial Production (IIP) has grown 5.5 percent year-on-year in 2018-19. The Consumer durables loan in India was increased by 70 percent in December 2019.

According to major retailers and manufacturers, consumer electronics sales increased by 9-12 percent during Diwali in October 2019. Some key growth drivers for the consumer market include the Government of India's policies and regulatory frameworks, such as the relaxation of license rules and the approval of 51 percent FDI in multi-brand retail and 100 percent FDI in single-brand retail. According to the Department for the Promotion of Industry and Internal Trade, foreign direct investment (FDI) into the electronics industry totaled \$2.52 billion between April 2000 and September 2019. Online marketplaces are prohibited from selling specific things under the new FDI policy, and each vendor is only permitted to list a limited amount of products on the marketplace. ("Indian Consumer Durable Analysis," 2020).

1.3 Indian Television Market

The television industry in India is predicted to reach Rs. 660 billion (US\$10.19 billion) in 2017 and Rs. 862 billion (US\$13.31 billion) in 2020. There were 197 million TV households in India in 2018, with 835 million TV viewers. The commercial and hotel industries, the burgeoning e-commerce industry, and the increasing number of single-parent households are all contributing to the market's expansion. Television viewing is no longer only a city phenomenon, as more than 99 million rural Indian homes now have access to the medium. Customers in India are shifting their focus from televisions to mobile devices. The television sector is facing serious threats from smartphones.

1.3.1 Types of TVs

Large numbers of people in rural areas are still using CRT (Cathode ray tube) televisions, an outdated technology; as a result, there is rising consumer demand to upgrade to more modern sets, which in turn is expected to grow the television market significantly. Flat-panel televisions are particularly popular in urban areas since they take up less space and require less electricity than CRT displays. Flat-panel displays have become increasingly popular across all socioeconomic levels in the United States due to rapid innovation and falling pricing. Most modern flat-screen televisions are plasma displays, liquid crystal displays, light-emitting diodes, and organic light-emitting diodes. LCDs, LEDs, and OLEDs comprise most of the global market's key subsets. HD and 4K Ultra HD LED TVs are on the market, whereas the only option for ultra-high-end OLED is 4K. Competition from LCDs, whose prices have dropped faster than plasma TVs, is to blame for the drop in plasma TV pricing. Plasma television production was halted in 2014 by both LG and Samsung due to falling sales. Consumers often buy a new TV every five years due to the steadily declining pricing of TVs.

1.3.2 Major Players

India's television market is controlled by major players, namely– Samsung India Electronics Private Limited, LG Electronics India Private Limited, Sony India Private Limited, Panasonic India Private Limited, Intex Technologies (India) Limited, Videocon Industries Ltd., Micromax

Informatics Limited, BPL Limited, MIRC Electronics Limited (Onida is leading brand), and Vu Technologies Private Limited, Xiaomi Mi ("India Television Market," 2018).

2. Literature Review

Reddy and Rajalakshmi (2007) stated that the electronic industry was in its nascent stage of development until 1970. In the era of globalization, it is one of the fastest growing industries in India. Knowledge of consumer behavior directly affects marketing strategy. This is because of the marketing concept, that is, firms exist to satisfy customer needs. Firms can satisfy those needs only to the extent that they understand their customers. For this reason, marketing strategies must incorporate knowledge of consumer behavior into every facet of a strategic marketing plan. Market may be effectively segmented through statistical analysis of brand preference and selection (Henderson & Joseph, 1998). Majority of the urban consumers were well informed about brands and were quality conscious, reveals a study by Sampathkumar (2000) on select consumers products carried out in urban areas of Hyderabad city in India. The research also emphasized that the consumers' approval on quality dimensions of durables is ever changing and it is must to keep a track of these behavioural aspects at the same pace as to be successful in marketing ecosystem. Hence, the organizations are continuously facing new equations in their operating environment in every direction (Bettis & Hitt, 1995). Complex competitive situation, vulnerable demand forecast, varying consumer preference, existence of too many brands, changing attitude of channel intermediaries, shortening of the product lifecycle, are making marketing decisions extremely difficult and risky (Hammer, 1997).

In marketing literature, the word brand preference means the desirability or choice of an alternative. Preferences are nothing but the behavioural tendencies (Zajonc and Markus, 1982). There is no statistically significant relationship between the factors like monthly income and age with the brand preference. But exists a significant relationship of occupation and education with the brand preference (Gihan & Ruwan, 2010). Sanjeev and Singh (2008) established the relationship between occupation, income, education levels, and brand possession of durables like color televisions. However, age was not found to be a determinant of brand possession in his studies. Age affects how individuals think, feel, and behave. Hawkins et al. (1998) indicate that preferences and tastes formed during the teenage years could influence purchase patterns in the rest of life. Zollo (1995) stated that adolescents are trendsetters who extend fashion and culture for the population at large. Chowdhary (1989) found that adolescent and elderly consumers were significantly different in seeking product information. The distinction exists amongst consumers not only because of genetic reasons, but due to cultural variations and gender. The men have become as brand-conscious as women. As a result, gender-related expectations that were distinct once have become blurred (Teather, 1995).

Consumers with higher education actively searched out and digested information, evaluated many possibilities, took their time making a purchasing decision and were prepared to take more risks, according to Kjell (1974). As India's literacy rate rises, so will the sophistication of the country's consumers. As a result, a person's purchasing habits may vary based on their level of education, making it an essential predictor of long-term consumer behavior. The

commodities and services the individual's work influence a person's use. Buyers examine the product's practicality, performance, usefulness, visual appeal, and perceived quality (Terpstra & Sarathy, 1997). According to Kitayama (1991), consumers are more likely to use brands to indicate how they are similar to or different from their in-group members. For buyers, brands represent utility and identification (Bhat & Reddy, 1998). McCracken (1986) claims that the use and consumption of specific brands are frequent indications of their symbolic significance.

As a result, there is a strong link between how consumers view the brand image and consumer's self-image (Zinkham & Hong, 1991). Individuals are more likely to buy brands whose personalities intimately match their own self-images (Schiffman and Kanuk, 2000). Similarly, consumers express themselves by selecting brands whose personalities are recognized to be consistent with their own personalities (Aaker, 1999). Individuals prefer brands that have images compatible with their perceptions of self (Belk et al., 1982). Specifically, the more similar a consumer's self-image is to the brand's image, the more favourably they evaluate that brand (Graeff, 1996). The varying occupation of a consumer facilitates the consumer to build up different types of reference groups around them. Income influences the purchasing power of a consumer. The acquisition of a lower grade or a premium brand is decided by the income level of the respective consumer. Hence, income and consumption are absolutely related. The overall consumption level increases when the income rises. Furthermore, income also affects the type of goods that consumers are likely to buy (McConnell and Brue, 1999). Hence, marketers must clearly define their target customers on the basis of their income level for accurate projections of their sales.

Brand preference is defined variously as the consumer's predispositions toward a brand that varies depending on the salient beliefs that are activated at a given time; the consumer biasness toward a certain brand; the extent to which a consumer favours one brand over another. There is difference between brand preference and brand loyalty. Brand preference represents the attitudinal brand loyalty excluding the action of repeat purchasing. Thus, brand preference is related to brand loyalty; however, brand loyalty is more consistent depicted by the long-term repeated purchasing behaviour. Many researchers agree that benefits sought, attitude, brand usage are the main antecedents of brand preferences, which is given as follows:

$$BP = PU + PP + A + B + \Sigma R (MV)$$

Where,

BP - Brand preferences

PU - Product usage

PP - Purchase patterns

A - Attitude

B - Benefits sought

R - Consumer response

MV - Marketing Variables (O'Connor and Sullivan, 1995).

The concept of consumer satisfaction occupies a central position in marketing thought and practice. Satisfaction is a major outcome of marketing activity and serves to link processes culminating in purchase and consumption with post purchase phenomena such as attitude change, repeat purchase and brand loyalty (Hasan, 2014). Kishor (2012) stated that, a consumer has some expectations about the product. If product performance exceeds a consumer's expectations, he feels satisfied. In economics it is called consumer's surplus, and that is measured in terms of utility.

The above analysis ascertained that there is scanty information on consumer behaviour towards durables in urban areas and more specifically towards television in Bangalore. The brand preference model given above by O'Connor and Sullivan shows that, the brand usage is one of the antecedents of brand preference. Study on brand usage vis-a-vis brand preference on television was identified as research gap in addition to other behavioural elements in the present study. Hence, it is justified to study the urban consumer behaviour towards durables.

3. Objectives of the Study

1. To critically analyze the general consumer durable industry, its trends, market share, growth in India.
2. To know the brand preference of the customers purchasing Television in Bangalore urban district.
3. To study the factors considered while choosing a brand of a television and other behavioural elements of consumers in Bangalore urban district.
4. To ascertain the satisfaction ratings for the televisions the respondents use in Bangalore urban district.

4. Hypotheses of the Study

The main aim of the study is to test the following hypotheses:

H01: There is no significant association between gender and television brand usage.

H02: There is no significant association between age and television brand usage.

H03: There is no significant association between education and television brand usage.

H04: There is no significant association between occupation and television brand usage.

H05: There is no significant association between annual income and Television brand usage.

H06: The mean satisfaction ratings for the television brands are same.

5. Scope of the study

The study focuses on the purchase behaviour of consumer durable in Bangalore urban district (Fig. 5). It is believed that the findings of this district are fair representative of the other parts of the country with similar social, cultural and economic conditions. The researcher limits its scope to only Television as representation of durables.



Figure 5: Map of Bangalore Urban in Indian Map

6. Industry and Research Implications:

Kotler (1980) defines marketing as a human activity at satisfying needs and wants through the exchange process. In the entire gamut of marketing, consumers hold a central position. Consumer behavior is a dynamic process and growing rapidly as a discipline. It is a complex and multi-dimensional process reflecting the totality of myriad of consumers decision with respect to acquisition, consumption, and disposal of products. Individual consumer on other hand exhibits significant difference in their buying behavior, plays an important role in local, regional and national economic environment. This warrants the need for the marketers to collect accurate information about consumer buying behaviour through research so as to understand and analyse them to serve them better in relation to the competitors to sustain and survive in market place.

To stabilize their survival and maximizing their profits, every organization in consumer durable industry should examine to which extent they understand their consumers. Even different geographical pockets in the same country may reflect different purchase behaviour towards consumer durables and more specifically television as a durable good.

The brand preference model given above by O'Connor and Sullivan advocates that, the brand usage is one of the antecedents of brand preference. Study on brand usage vis-a-vis brand preference on television in Bangalore city of India may assist the marketers to understand determinants of brand preference of television to better design their marketing programme.

7. Research Design

The research design selected for this study is combination of exploratory and descriptive research designs. The exploration of literature, cases and resource persons' opinions are included in exploratory study which was purely desk research, whereas descriptive study was undertaken by survey method by constructing an instrument to establish relationship between independent demographic variables and dependent brand usage and satisfaction ratings. The survey for descriptive study was undertaken during January-February, 2022 in the Bangalore city, India.

7.1 Sampling design

A non-probability convenience sampling method was used. A sample of 50, each from four quadrants of the research area was selected, i.e., Bangalore North, South, East and West, constituting a sample size of 200.

7.2 Data collection

This research study is primarily a descriptive study. The researcher collected information through primary and secondary data. The primary data was collected using a structured questionnaire as tool of data collection from the television users, mostly the heads of the households in Bangalore city. The secondary data was collected from different sources, like, journals, magazines, annual reports, internet; books related to topic, etc.

7.3 Tools and techniques of data analysis

The collected data was analyzed mainly thorough descriptive and inferential statistics, using Tabulation, Chi-Square statistic and ANOVA. The SPSS (Version 20.0) software was used to execute the analysis process. Methods such as bar charts and tabular formats were used to derive and summarize the data. The desired level of significant was 0.05 with the Chi square test and ANOVA.

8. Data Analysis and Interpretation

8.1 Demographic profiles of the respondents

Based on the analysis of the collected data, the following demographic profile of the respondents was created. Table 1 shows the demographic information of the sample respondents.

Table 1 : Demographic profiles of the respondents

Details	Frequency (N)	Percentage (%)
Gender		
Male	171	85.5
Female	29	14.5
Total	200	100
Age group		
<30years	43	21.5
30-40	88	44
40-50	52	26
>50 years	17	8.5
Total	200	100
Education		
Illiterate	32	16
Upto 10th	16	8
Upto 12th	36	18
Graduate	76	38
PG and above	40	20
Total	200	100
Occupation		
Govt. Service	52	26
Pvt. Service	88	44
Business	48	24
Others	12	6
Total	200	100
Annual Income		
< Rs. 2 Lakh	8	4
2-4 Lakh	26	13
4-6 Lakh	42	21
6-8 Lakh	63	31.5
>8 Lakh	61	30.5
Total	200	100

Source: Primary data

8.2 Descriptive statistics

From the Table 2 it is evident that maximum of the respondents used Samsung television (17%), followed by Sony (13.5%) and LG (12%). It is to be noted that only 8% of the respondents use other brands such as, Weston, Oscar, Vu, Haier, Intec, Intex, etc.

Table 2 : Brand usage of the respondents

TV Brands	Frequency (N)	Percentage (%)
Samsung	34	17.0
Sony	27	13.5
LG	24	12.0
Sansui	14	7.0
Videocon	14	7.0
BPL	12	6.0
Onida	12	6.0
Panasonic	12	6.0
Philips	12	6.0
Micromax	11	5.5
Mi	8	4.0
Toshiba	4	2.0
Others	16	8.0
Total	200	100.0

Source: Primary data

From the Table 3 it is understood that most of the respondents used LED TVs (29%), followed by LCD (27%) and CRT (21%). The share of super-premium OLED stood at 10%.

Table 3 : Types of TVs used by the respondents

Television Type	Frequency	Percent
LED	58	29.0
LCD	54	27.0
CRT	42	21.0
Plasma	26	13.0
OLED	20	10.0
Total	200	100.0

Source: Primary data

From the Table 4 it is to be noted that in most of the television purchases the influencer was spouse (40%), followed by the respondent himself/herself (21%) and children (20%).

Table 4 : Influencer to purchase television

Influencer	Frequency (N)	Percentage (%)
Spouse	80	40.0
Self	42	21.0
Children	40	20.0
Friends	16	8.0
Parents	12	6.0
Neighbour	10	5.0
Total	200	100.0

Source: Primary data

From the Table 5 it is evident that the source of information for the respondents for television was television ad (72%), newspaper ad (44%), followed by friends (40%), colleagues (33%), magazine (32%), neighbours (21%), etc. For this a checklist question was employed.

Table 5 : Source of Information for television

Source of Information	Frequency (N)	Percentage (%)
Television Ad	144	72
Newspaper Ad	88	44
Friend	80	40
Colleague	66	33
Magazine	64	32
Others	48	24
Neighbour	42	21

Source: Primary data

The Table 6 depicts the opinion leadership in purchase of television. Of 200 respondents, 33% took opinions of known retailers, 27% from the users of the product/brand, friends (21%) and 11% took expert opinion in selecting a television brand.

Table 6 : Opinion leadership for television

Opinion leaders	Frequency	Percentage (%)
Known retailer	66	33.0
User of the product	54	27.0
Friends	42	21.0
Expert opinion	22	11.0
Relatives	16	8.0
Total	200	100.0

Source: Primary data

The Table 7 explains that the maximum number of respondents gave importance to special attachments (60%), Sound (54%), Picture quality (46%), ease of operation (42%), after sale service (32%), brand name (34%), etc.

Table 7 : Factors considered while choosing a television brand

Sl.No.	Factors	Importance					Total
		1	2	3	4	5	
1.	Price	36 (18%)	84 (42%)	56 (28%)	16 (8%)	8 (4%)	200 (100%)
2.	Brand Name	68 (34%)	76 (38%)	44 (22%)	8 (4%)	4 (2%)	200 (100%)
3.	After Sales Service	72 (36%)	80 (40%)	40 (20%)	8 (4%)	0 (0.0%)	200 (100%)
4.	Picture Quality	92 (46%)	84 (42%)	24 (12%)	0 (0.0%)	0 (0.0%)	200 (100%)
5.	Sound	108 (54%)	80 (40%)	12 (6%)	0 (0.0%)	0 (0.0%)	200 (100%)
6.	Special Attachment	120 (60%)	72 (36%)	8 (4%)	0 (0.0%)	0 (0.0%)	200 (100%)
7.	Technology	108 (54%)	80 (40%)	12 (6%)	0 (0.0%)	0 (0.0%)	200 (100%)
8.	Sales Promotions (Scheme)	36 (18%)	84 (42%)	64 (32%)	16 (0.0%)	0 (0.0%)	200 (100%)

9.	Past Experience	52 (26%)	68 (34%)	60 (30%)	20 (10%)	0 (0.0%)	200 (100%)
10.	Ease of Operation	84 (42%)	64 (32%)	40 (20%)	12 (6%)	0 (0.0%)	200 (100%)
11.	Behavior of Retailer	0 (0.0%)	40 (20%)	100 (50%)	60 (30%)	0 (0.0%)	200 (100%)
12.	Warranty Period	40 (20%)	108 (54%)	48 (24%)	4 (2%)	0 (0.0%)	200 (100%)

Source: Primary data

(N.B. 1- Very important, 2-Important, 3-Moderately Important, 4-Slightly Important, 5-Not Important)

The above Table 8 analyses that the maximum number of respondents used cash as mode of payment for television (45%), followed by finance scheme (35%), and only 20% used debit or credit cards.

Table 8 : Mode of Payment for purchase of television

Opinion leaders	Frequency	Percentage (%)
Credit/Debit card	90	45.0
Installment (Finance Scheme)	70	35.0
Cash	40	20.0
Total	200	100.0

Source: Primary data

8.3 Hypothesis testing

8.3.1 Chi-square test: Demographic factors and brand usage

Table 9 : Summary of Chi-square tests

Variables	Pearson Chi-Square Value	df	Asymp. Sig. (2-sided)	H0 Rejected/ Accepted
Gender by Brand usage	18.806	18	.093	H01: Accepted
Age by Brand usage	236.290	36	.000	H02: Rejected
Education by Brand usage	236.290	48	.000	H02: Rejected
Occupation by Brand usage	167.118	36	.000	H02: Rejected
Annual income by Brand usage	193.234	48	.000	H02: Rejected

From the Chi-square tests summary Table 9 it is found that, there is no statistically significant relationship between the gender and the brand usage. But, there is statistically significant relationship between the age group, education level, occupation, annual income and the brand usage.

8.3.2 Analysis of Variance (ANOVA)

From the mean satisfaction ratings Table 10, it is found that, Panasonic, Sony, and LG have highest ratings, i.e., 1.00, 1.1429, and 1.5000 respectively (1 being highly satisfied and 5 being highly dissatisfied). On other side, Sansui has lowest rating (3.00).

Table 10 : Estimated marginal means satisfaction ratings of television brands

Sl. No.	Brands	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
1.	Panasonic	12	1.0000	.00000	.00000	1.0000	1.0000
2.	Sony	28	1.1429	.35635	.06734	1.0047	1.2810
3.	LG	24	1.5000	.78019	.15926	1.1706	1.8294
4.	Mi	8	1.5000	.53452	.18898	1.0531	1.9469
5.	Onida	12	1.6667	.98473	.28427	1.0410	2.2923
6.	Philips	12	1.6667	.98473	.28427	1.0410	2.2923
7.	Videocon	16	2.0000	.73030	.18257	1.6109	2.3891
8.	Toshiba	4	2.0000	.00000	.00000	2.0000	2.0000
9.	BPL	12	2.0000	.00000	.00000	2.0000	2.0000
10.	Samsung	32	2.1250	.94186	.16650	1.7854	2.4646
11.	Micromax	12	2.3333	.49237	.14213	2.0205	2.6462
12.	Sansui	12	3.0000	.85280	.24618	2.4582	3.5418
13.	Others	16	3.0000	.73030	.18257	2.6109	3.3891
Total		200	1.8800	.91091	.06441	1.7530	2.0070

From ANOVA Table 11, the significance of F-test for televisions was found to be 0.000 which is less than 0.05, so the null hypothesis was rejected. This indicated that at a confidence level of 95 % mean rating given for thirteen different brands of televisions are significantly different.

Table 11 : ANOVA test (Satisfaction ratings by television brand)

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	70.191	12	5.849	11.523	.000
Within Groups	94.929	187	.508		
Total	165.120	199			

H0: The mean satisfaction ratings for the television brands are same.

H1: The mean satisfaction ratings for the television brands are not same.

9. Findings and Conclusion

According to the study it was found that in the Bangalore city of India Samsung television (17%) was most preferred brand among households, followed by Sony (13.5%) and LG (12%). When it comes to preference of television type LED televisions (29%) led the market, followed by LCD (27%) and CRT TVs (21%). The share of super-premium OLED stands at 10%, it shows that high end televisions are making in roads to urban areas. The respondents included 85% of males and 15% of females, spouses were the major influencers in purchase decisions of televisions (40%) followed by respondent himself/herself (21%) and children (20%). It can be concluded looking at the gender wise distribution of respondents that the women are the major influencers in brand preferences of television. The television as a media was the major source of information to learn about televisions by consumers (72%), newspaper ad (44%), followed by friends (40%), colleagues (33%), magazine (32%), and neighbours (21%) out of total respondents. The opinion leaders in purchase of television were found to be known retailers (33%), users of the product (27%), friends (21%) and expert opinion (11%). In the case of factors affecting the purchase of a television more importance is given to special attachments (60%), sound quality (54%), picture quality (46%), ease of operation (42%), after sale service (32%), and brand name (34%). As far as the mode of payment was concerned for the television purchase most of the respondents used debit or credit cards (45%), followed by finance scheme (35%), and only 20% used cash.

Using ANOVA and the significance of F-test for televisions satisfaction ratings (at 95% confidence level), it was found that the mean rating given for thirteen different brands of televisions in Bangalore urban are significantly different. The highest satisfaction rating was given to Panasonic, Sony, LG, Mi, Onida and Philips respectively.

The research findings indicate using Ch-squared test that out of the five demographic factors tested, all the factors, except one factor (gender), statistically proved to be significant in determining the brand usage in urban markets of Bangalore district. Since this research has

established empirical evidence that the demographic variables of age, education, occupation and annual income play a vital role in determining the television brand usage, marketers would have to formulate their strategies accordingly.

In conclusion, India is the second largest consumer market in the world. Consumer Durable Industry vis-à-vis television industry is growing rapidly in India because of its large consumer base with disposable income, easy availability of finance, and demand for high-end products. Consumer durable penetration is one of the lowest factors in India and the untapped potential is evidently high. Keeping in mind the untapped potential and growing market size, it is certain that, the Indian market will fuel the growth for both domestic and multinational companies in the future. The Government of India is doing its share of duty by liberalizing and favouring foreign direct investments (FDI) in consumer durable sector. The business environment is conducive for consumer durable industry, what is important for the marketers and researchers is to keep a close track of consumer behaviour to survive, to sustain, to be relevant, to succeed and remain profitable.

10. Limitations of the Study and Future Scope

In addition to the generic limitations of time and money for any research, dimensions of consumer behaviour considered for the study is also a limitation. There are many sides of consumer behavior, but this study concentrates on individual purchase behaviour with fundamental stages, viz., need recognition, information search, evaluation of alternatives, purchase and post-purchase of television. Other limitations have been identified in this study are, non-probability sampling technique, the sample size does not ensure representative and conclusive findings and finally, a more robust analysis is needed to reach out to a strong conclusion.

From the consumer durable market analysis, it is evident that consumer durable sector has considerable untapped potential. Further, the present government's initiative 'Make in India' could act as a greatest opportunity to this sector. The regulatory authorities have been working on creating a conducive business environment to enhance ease of doing business in India for domestic and MNCs. It is concluded that the determinants like age, income, occupation and level of education of household head have significant positive effect on the demand for most of the major durables and specifically television. Therefore, there is a wide scope for repeating this research in future with a more broad-based sample and independent factors which could lead to a more convincing result.

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Sustainable Urban Infrastructure: Achieving Green Economic Growth through Public-Private Partnerships

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Abstract

There is a critical need for prioritising sustainable urban infrastructure in emerging markets to address environmental sustainability and pollution reduction issues. This research, by emphasizing the significant impact of pollution caused by rapid urbanization and the critical role of cities in global efforts to combat climate change, looks into effectively incorporating sustainable urban structures into cities to achieve green economic growth. Furthermore, the study also emphasises the importance of government initiatives in promoting urban green infrastructure and the role of sustainability-oriented Public-Private Partnerships (PPPs) in driving positive change. The paper provides practical insights into applying sustainable urban infrastructure principles through a case study of the “Green City Mission” in West Bengal, India. It also looks into how the Earth Restore program, which women lead, demonstrates green economic growth and aligns with multiple SDGs like gender equality addressed in SDG 5, inclusive and sustainable cities addressed in SDG 11, climate action addressed in SDG-13, life below water addressed by SDG-14, life on land addressed in SDG-15, and partnerships for the goals -SDG 17.

Keywords: *Urban infrastructure, ESG, Carbon sequestration, Climate change mitigation, Public-Private Partnership, Urban resilience.*

1. Introduction

Many people are concerned about the rapid urbanisation of emerging markets and its impact on environmental sustainability and pollution reduction (Ooi, 2009). Pollution through infrastructure development is a significant concern, with air, water, and noise pollution threatening public health and the environment (Pandey et al., 2021).

Immediate urban planning and development action is required to combat these issues and promote sustainable development. Cities play an essential role in this global effort because they account for a significant portion of greenhouse gas emissions (Ghosh et al., 2011). The adoption of the Paris Agreement at the 2015 COP21 summit thus emerged as a mitigation step. It encouraged governments to work together to reduce global temperatures below 1.5 degrees Celsius (Dimitrov, 2016).

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Different cities, however, have implemented various sustainability measures to encourage green growth. One such initiative is sustainable urban infrastructure, which aims to achieve the same by addressing the pressing issues of climate change and pollution (Hickel & Kallis, 2020). Curitiba, Brazil, has demonstrated how sustainable urban development can lead to more sustainable cities. The city's well-integrated public transportation system has reduced the use of private vehicles while lowering carbon emissions. Improving air quality and reducing traffic congestion has resulted in a healthier and more liveable metropolitan environment (Macedo, 2013). Another example of environmentally friendly transportation is found in Copenhagen, Denmark. By investing heavily in bike infrastructure, the city has effectively pushed its citizens to use cycling as their primary mode of transportation, significantly lowering carbon emissions and traffic congestion. The aggressive goal of becoming carbon neutral by 2025 demonstrates the city's commitment to environmental stewardship in all aspects of urban life (Hrushowy, 2006).

Masdar City in Abu Dhabi is an example of how sustainable urban development can revolutionise energy consumption; by incorporating renewable energy sources and implementing innovative grid systems, Masdar City has reduced its carbon footprint and worked toward zero-carbon status significantly. The city's design emphasises the importance of environmentally conscious architecture in sustainable urban development by prioritising energy-efficient buildings and nature (Nader, 2009). Countries, including India, have also committed to reducing emissions intensity as part of their Nationally Determined Contributions (NDCs) by the objectives of the Paris Climate Change Agreement (India: Nationally Determined Contribution, 2022).

Greening urban infrastructure is crucial in combating climate change and corruption. In cities, for example, green infrastructure can improve air quality, enhance water management, reduce heat island effects, and give ecological and social advantages. (Tan et al., 2021). The goal is to incorporate environmentally friendly practices, resource efficiency, and social inclusivity into urban infrastructure project planning and implementation. Cities seek to develop ecologically resilient, socially egalitarian, and economically productive urban places that can survive climate change and other environmental issues by following such sustainable principles (Ferrer et al., 2018), (Banerji et al., 2023). Academics believe green urban infrastructure can generate economic benefits by creating jobs and attracting investments (Ying et al., 2022). Furthermore, green urban infrastructure built on sustainability principles can significantly improve city dwellers' overall quality of life (Banerji et al., 2023).

2. Research Question

This makes sustainable urban infrastructure a moral imperative. Green spaces and vegetation should be used as city carbon sinks to promote green economic growth and environmentally responsible development. Carbon sinks reduce global warming by offsetting CO₂ emissions

(Miller et al., 2022). But then, the question arises: Q. How can sustainable urban infrastructure be effectively integrated into future cities to achieve green economic growth?

Governments play an important role in promoting such infrastructure initiatives. Such initiatives are demonstrated in Masdar, Curitiba, and Copenhagen case studies by emphasising comprehensive policies that emphasise sustainability, resilience, and energy-positive urban development. This leads to the following question: What are some of the government's specific green initiatives to promote urban green infrastructure in India?

In the pursuit of sustainable urban infrastructure, multiple stakeholders play crucial roles. Public-private partnerships (PPPs), which have emerged as valuable mechanisms for effectively achieving sustainability goals, are one such collaboration the government is deploying, according to (Cheng et al., 2021). China offers compelling case studies demonstrating the success of PPPs with a focus on sustainability. These collaborations have been critical in executing infrastructure projects based on sustainable principles, demonstrating their ability to drive positive change and promote environmentally conscious development.

This leads to the next question: How do sustainability-oriented Public-Private Partnerships (PPPs) achieve sustainability goals?

3. Methodology

To provide practical insights and real-world examples of sustainable urban infrastructure development, official records, studies, and publications from the West Bengal Government, the New Town Kolkata Development Authority, and similar relevant institutions were used to compile this data. Additionally, on-the-ground insights into planning and implementing sustainable urban infrastructure initiatives were obtained through site visits and firsthand observations.

To ensure a comprehensive understanding, interviews were conducted with representatives from the West Bengal government, NKDA officials, urban planners, and key persons involved in the "Green City Mission." These interviews provided various perspectives on the topic pertinent to the paper. Communities and stakeholders were also surveyed to ascertain their perceptions of the impact of sustainable infrastructure efforts.

The gathered data underwent qualitative analysis, which included thematic coding and content analysis. This method allowed for identifying trends, emerging themes, and significant insights relevant to developing sustainable urban infrastructure, carbon sequestration, pollution mitigation, and stakeholder participation. The findings were then compared and contrasted with current literature on sustainable urban infrastructure, carbon sinks, pollution concerns, and public-private partnerships. This case study analysis contributed to the research's theoretical implications section, providing valuable insights for further discourse in the field.

Based on the case study findings, the research offered practical implications and recommendations for policymakers, urban planners, and stakeholders. These recommendations aimed to incorporate sustainability principles, public-private partnerships, and green infrastructure initiatives into future sustainable urban development efforts. The discussion and conclusion of the study summarised the key findings and implications of the case study, highlighting the significance of sustainable urban infrastructure in achieving green economic growth using an effective Public-Private Partnership (PPP) model.

4. Case study

In India, the multi-city West Bengal “Green City Mission” identifies New Town Kolkata as an example of a sustainable and resilient urban environment. Under the mission, green verges are allotted for adoption by organizations. One such initiative is the Earth Restore, discussed in this paper.

4.1 The green city mission

A clear understanding of the country’s severe environmental status prompted India’s journey toward a greener and more sustainable future. The data portrayed a bleak picture: air pollution was rising, water bodies were polluted to dangerous levels, and the metropolitan environment was losing its green touch.

The Cabinet Standing Committee on Industry, Infrastructure, and Employment thus adopted, in principle, the Green City Mission concept provisioned through the Urban Development and Municipal Affairs Department and its Implementation Mechanism, as well as its implementation mechanism on July 4, 2016. The Chief Secretary chaired the High-Powered Committee, which included the departmental heads of various departments. The Green City Mission initially drove local governments to develop strategies to enhance green space, conserve water bodies, and improve public spaces. The greening strategy included urban afforestation, park creation and revitalization, nurseries and floriculture, and pocket forests. They were planting in the road medians. It was decided that any other initiatives the High-Powered Steering Committee, led by the Chief Secretary, deemed admissible could be taken up for execution. This committee met twice to approve the schemes submitted by the ULBs (Urban Local Bodies) /Development Authorities and made other Green City Mission-related decisions. It was agreed that the mission’s resources should be devoted solely to improving the environment in cities rather than being used to construct other infrastructure that, while necessary, has a lesser impact on the city’s greening. Given the technical resources available to most of the state’s urban local governments, the government recognized that they would require technical assistance to prepare good projects with maximum impact. Several teams were formed to assist municipal governments with project planning and execution.

The Technical Committee, comprised of diverse technical persons, investigated the technical, financial, and legal elements in West Bengal for implementing the Green City Mission projects in eastern India. The Urban Development and Municipal Affairs approved the documents submitted by the Technical Committee following reviews by the Municipal Engineering Directorate, Kolkata Metropolitan Development Authority, also known as the (KMDA), the Public Works Department, the Public Health Engineering Department, or the Special Engineer's office. Parks, green strips, footpaths, afforestation, and landscaping around heritage buildings, district, and sub-divisional hospitals were prioritized for development (Department of Urban Development & Municipal Affairs, 2016).

4.2 Green verge

New Town Kolkata is one of the city's growing neighbourhoods. New Town Kolkata Development Authority Act 2007 paved the way for formulating the New Town Kolkata Development Authority, also known as Rajarhat, established following the. The NKDA was set up in New Town, Kolkata operating since November 2008 (Department of Urban Development & Municipal Affairs, 2016).

In line with the principle of the Green City Mission, the NKDA's (New Town Development Authority) 'Green Verges' in New Town, Kolkata, are designated pockets developed as green zones. These Green Verges have been designated in almost every residential block in New Town (NKDA Area). Green pockets have been strategically placed throughout the city at regular intervals. They are aimed to improve the city's overall green cover and break up the monotony of an urban landscape. It is a place to exercise, relax, find peace, and escape the heat. These Green Verges can make a significant contribution to urban biodiversity and ecosystems. NKDA invited Foundations, Societies, Organizations, Individuals, and Others to Adopt these 'Green Verges,' a historic initiative in participatory planning and adoption (Banerji et al., 2023). Sustainable Advancements adopted one such Green Verge under its brand name, Earth Restore.

4.3 Earth restore

The Green Verge adopted by Sustainable Advancements under its Earth Restore brand in BE Block of Action Area 1 of New Town is approximately 1.8 acres of land. There are about 142 plots in the area, with 12 co-operative homes and 32 flats in each co-operative, with the potential to cater to approximately 4,500 people. The Green Verge comprises 22 housing cooperatives/houses directly surrounding the project area (Earth Restore, 2023). The adoption has resulted in positive changes such as social cohesion and promoting biological diversity (Banerji et al., 2023). Since 2021, Earth Restore has planted over 130 bamboo clumps in the area and around 350 species of plants that have made it their home, thereby attracting biodiversity to thrive in this space.

4.4 Discussion

The Earth Restore program exemplifies how green economic growth can be achieved by effectively integrating sustainable urban infrastructure into future cities. Earth Restore has proven numerous essential tactics and approaches that achieve at least six Sustainable Development Goals (SDGs), namely SDGs 6, 11, 13, 14, 15, and 17, while also supporting green economic growth by promoting sustainability principles in urban development practices (Banerji et al., 2023). The SDGs are a list of 17 objectives globally established by the United Nations to address economic, social, and environmental issues to produce a more equitable and sustainable world by twenty thirty. These objectives cover many topics, including poverty eradication, climate action, gender equality, and high-quality education.

SDG 5: SDG 5's primary objective is to eliminate gender-based disparities and promote gender equality by empowering women and girls, fostering equal opportunities, and enhancing their societal, economic, and political roles." For SDG 5 on Gender Equality, Earth Restore exemplifies how women actively contribute to environmental sustainability and restoration. Earth Restore is a woman-led initiative that promotes gender equality in the green economy by involving women as creators, workers, and financiers in its various project components. By providing economic opportunities among the women, Earth Restore helps develop women's skills and capacities within the community. This involvement also raises awareness about the importance of environmental sustainability and encourages more women to participate in such crucial initiatives (de Siqueira et al., 2021).

SDG 11: This SD aims to strive for inclusive cities and human settlements and transform them into more inclusive, secure, resilient, and sustainable. Earth Restore ensures inclusivity and meets the community's needs by tracking how people from various socio-economic backgrounds use green spaces. New Town is an extension of the Greater Kolkata city hub and is in the development stage, bringing in people from multiple backgrounds to work and explore this place. The area has a population of over 64 thousand (Smart Cities, 2019) from various backgrounds and a resident migratory population who work as labourers in construction sites. Migrants from rural to urban areas often face mental health challenges due to reduced nature exposure and increased urban stressors, including noise and crowding. These factors can lead to anxiety, exhaustion, isolation, and disconnection from nature, complicating the transition (Y., 2010). Access to green city spaces provides them numerous environmental, social, and health benefits, making it critical for sustainable cities and communities. Thus, Earth Restore helps to build more inclusive, secure, resilient, and sustainable cities and communities by encouraging sustainable land use practices and providing safe access to green spaces. This improves the overall quality of their lives and promotes green economic growth by increasing recreational and tourism opportunities.

SDG 13: Climate change and its consequences are immediately addressed in SDG 13 through mitigation and adaptation strategies. Earth Restore focuses on developing urban forests and encourages outreach and knowledge of the effects of climate change, which helps advance SDG 13's "Climate Action" goal. The project is taking action to solve this problem by establishing an urban forest since it recognizes the role that cities play in increasing CO₂ emissions. The program is assisting in lowering carbon emissions and enhancing local air quality by planting several native bamboo species and other plants (Banerji et al., 2023).

Earth Restore alone in its Green Verge 9, sequesters 150 tonnes of carbon annually. Urban plantation has many short and long-term effects, according to research. These include cleaner air quality, fruit and vegetable availability, medicinal plant benefits, and ecosystem improvement. Urban forests have psychological benefits and foster a symbiotic relationship between stakeholders and nature, encouraging their creation (Banerji et al., 2023).

SDG 14: SDG 14's major goal is to encourage the sustainable use of the oceans, seas and the conservation of the marine resources. Earth Restore's efforts to remove waste from land, particularly plastic debris, have important implications for SDG 14, "Life Below Water." Earth Restore prevents microplastics from leaching into water by collecting plastic waste thrown on the ground. These include packaging, balloons, etc. The Earth Restore team has removed 107 kilograms of plastic waste in three months from the land, thereby preventing them from getting washed into the sea. This proactive waste management and environmental protection approach contributes to the sustainable use and preservation of marine resources, aligning with green economic growth principles that prioritise responsible resource management (de Souza Machado et al., 2018).

SDG 15: To ensure a healthier planet for future generations, SDG 15 strives for the maintenance and restoration of terrestrial ecosystems, management of forests sustainably, combatting desertification, and halting biodiversity loss. Earth Restore's contribution to SDG 15, "Life on Land," is centred on restoring damaged land and creating biodiverse environments for urban animals. Earth Restore in Green Verge 9 has transformed a completely abused land into a thriving ecosystem by efficiently and effectively rejuvenating the soil and planting, maintaining, and protecting native trees through sustainable land use practices. Due to developmental activities, the soil quality in urban areas degrades (Imbrenda et al., 2021). This restoration of degraded land has improved the urban areas' overall ecological balance and increased their resilience to environmental challenges. These thriving urban ecosystems provide numerous economic benefits, including increased property values, increased attractiveness to businesses and investments, and improved urban climate, all of which contribute to a greener and more economically vibrant city (Behera et al., 2022).

SDG 17: SDG 17 focuses on establishing global collaborations to help all of the Sustainable Development Goals be met. Earth Restore achieves its sustainability goals through sustainability-oriented Public-Private Partnerships (PPPs), which fit with SDG 17 on Partnerships for the Goals. Through collaborations with multiple stakeholders, such as NKDA (Government), Corporations through their Corporate Social Responsibility (CSR) initiatives, Rotary clubs (civil societies), academic institutions, individuals, and communities, Earth Restore recognizes that achieving the Sustainable Development Goals requires a multi-stakeholder collaborative effort (Banerji et al., 2023; Earth Restore, 2023).

5. Conclusion

This research article explored the significance of sustainable urban infrastructure in achieving green economic growth, reducing pollution problems, and contributing to future city climate change mitigation efforts. The literature review results, case study analysis, and data collection have provided useful insights into the role of carbon sinks, environmental impacts, business sustainability programs, government policies, and public-private partnerships (PPPs) in achieving sustainability goals.

The study emphasises the importance of incorporating sustainability principles into urban planning techniques to produce environmentally conscious and resilient communities for future cities. Cities may efficiently offset carbon emissions, improve air quality, and increase urban well-being by carefully implementing carbon sinks such as green spaces and plants. Infrastructure-related pollution is a major worry for public health and general environmental well-being, highlighting the need for immediate action and comprehensive policies to address these issues.

This case study of Earth Restore's work in Green Verge 9, facilitated by the NKDA, demonstrated the significance of sustainable urban infrastructure. The effective implementation of "Green Verges" as designated green zones demonstrates the positive influence of green infrastructure projects on the urban landscape and the well-being of citizens. Such initiatives give essential lessons and insights for other communities seeking to develop sustainable and resilient metropolitan regions. After its debut in Green Verge 9, Earth Restore has been replicated in two more Green Verges in Action Area 1, where it is building a thriving biodiverse ecosystem.

Government policies and sustainability-oriented PPPs are pivotal in promoting sustainable urban infrastructure. Effective policies and regulations prioritising sustainability create an enabling environment for green investments. Collaborations between governments and private entities leverage resources and expertise, enabling the implementation of innovative and sustainable solutions.

Future research should continue to investigate more case studies in other countries and contexts to add to the literature and create a robust archive of how sustainable urban infrastructure can be created through impactful collaborations.

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A Study on Mergers and Acquisitions in the Indian Chemical Industry

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Abstract

Mergers and acquisitions involve transactions where companies combine or acquire one another. The purpose of this study is to analyze mergers and acquisitions, in the chemical industry understand the challenges faced during the process and explore the strategies employed by companies to overcome them. The study considered ten mergers and acquisitions that have taken place in the Indian Chemical Industry between 2005 and 2021. The Enterprise Value (EV) and EBITDA data were obtained from the annual reports of acquiring and target companies respectively. EV/EBITDA ratios were calculated and valuation multiples were found out. The findings of the study showed that careful planning and analysis are crucial for the success of M&A transactions due to their significant scale and complexity. Moreover, the study found that M&A transactions in the chemical industry help to reduce overall production costs, foster research and development, and provide opportunities for stable revenue through diversified portfolio.

Keywords: *Indian Chemical Industry, Mergers and Acquisition, Enterprise Value, EBITD.*

1. Introduction

Mergers and acquisitions (M&A) are financial transactions that involve the consolidation of companies or their major business assets through various means. In a merger, two or more companies combine their operations to form a new entity, pooling their resources and expertise. An acquisition, on the other hand, occurs when one company purchases and absorbs another company outright, either by acquiring its shares or assets.

1.1 Chemical industry in India

India's chemical industry plays a crucial role in the country's economic development, providing essential raw materials to various sectors such as agriculture, pharmaceuticals, textiles, and manufacturing. India's chemical sector has grown significantly over the years in terms of revenue, export volume, and manufacturing capacity. India is now among the world's top manufacturers and consumers of chemicals. Basic chemicals, specialised chemicals, agrochemicals, pharmaceuticals, and petrochemicals are only a few of the industries' many subsectors. The growth of the chemical industry in India has had a positive impact on the overall economy, generating employment opportunities, contributing to GDP growth, and boosting exports. Nonetheless, the industry faces various challenges such as the need for infrastructure development, access to finance, and regulatory issues are becoming a cause of concern, which need to be solved to accelerate the industry's growth. Internationally, India is the fourth-largest producer of agrochemicals after the United States, Japan and China. India accounts for 16-18% of the world production of dyestuffs and dye intermediates.

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With approximately 15% of market share, the Indian dyes industry has emerged as a key market player. The value of Indian chemicals industry stood at 12,816 billion in 2019 and is expected to reach 24,016 billion by 2025 projecting a CAGR of 9.3%. By 2025, the demand for chemicals is expected to expand by 9% per annum. By 2030, the chemical sector is expected to generate 30,257 billion in GDP for India. Furthermore, according to the CRISIL report, the specialty chemicals market in India is estimated to grow faster than China, increasing its market share to 6% by 2026 from 3-4% in fiscal 2021. The China+1 plan will cause a change in the global supply chain, and combined with an increase in domestic end-user demand, this will contribute considerably to the revenue growth of 18–20% in 2022 and 14–15% in 2023. The chemical industry of India is a major industry in the Indian economy and as of 2022, it contributes 7% to the country's Gross Domestic Product (GDP).

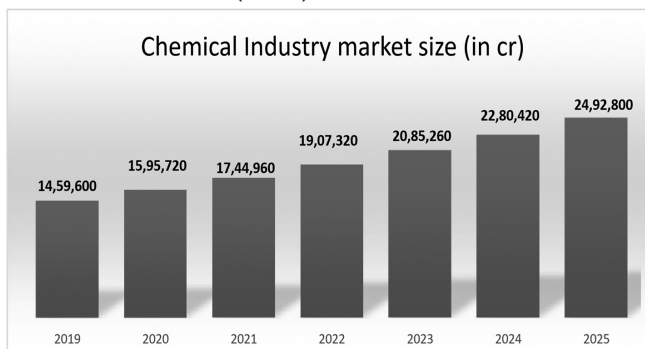


Figure 1: Market Size of chemical industry

Source: Compiled by the researcher from moneycontrol.com

Market Capitalization of top 10 companies

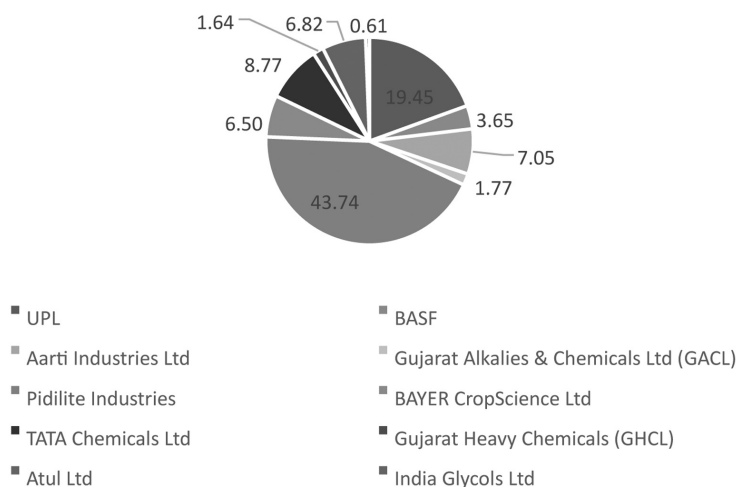


Figure 2: Market Capitalization of top 10 chemical companies in India

Source: Compiled by the researcher from javapoint.com

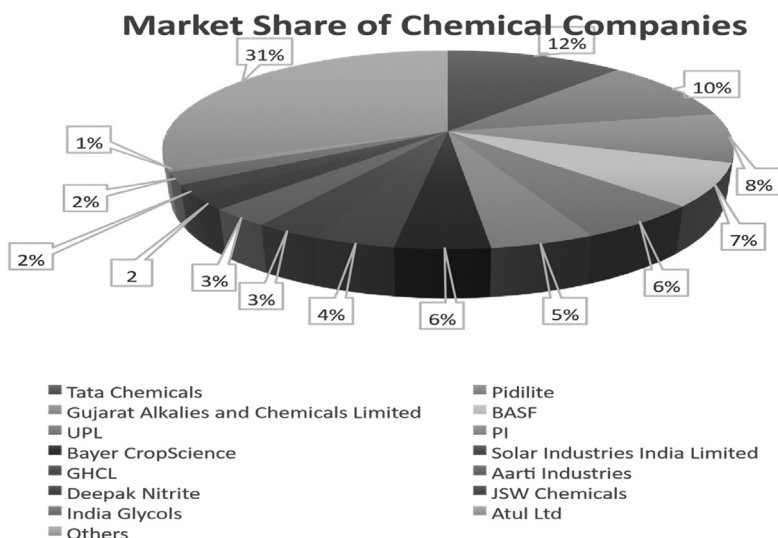


Figure 3: Market share of Chemical companies in India

Source: Compiled by the researcher from moneycontrol.com

1.2 Exports made by India

India is one of the top chemical exporting countries in the world. Major exports include inorganic and organic chemicals, tanning and dyes, agrochemicals, plastics, synthetic rubber, filaments, etc. In Financial Year 2023, exports of major chemicals and petrochemical products valued at US\$ 8.6 billion. The increase in export was due to the continuous from the Department of Commerce & Industry and Indian member exporters. The Chemical Exports Promotion Council of India, or CHEMEXCIL, has also made major efforts by utilizing funds from the Market Access Initiative Scheme, setting up business-to-business (B2B) exhibitions in various nations, investigating new markets through product-focused marketing campaigns with the active participation of Indian embassies, offering financial assistance for statutory compliance in the registration of foreign products, etc. During April 2022- January 2023, US\$ 20.03 billion worth of CHEMEXCIL's products were exported. In FY22, India's total chemicals products exports were valued at US\$ 24.31 billion, an increase of 38.67% YoY.

1.3 Export destinations

India is a major exporter of chemicals and chemical products to over 175 countries, including China, the United States, Brazil, the Netherlands, Saudi Arabia, Indonesia, the United Arab Emirates, Japan, Germany, and so on. Additionally, the sector began exporting to markets in Turkey, Russia, and Northeast Asian nations, including Taiwan, Macao, Hong Kong, Japan, Korea RP, and Mongolia. China was the biggest buyer of chemicals from India in 2020–21, bringing in US\$ 2.4 billion, ahead of the USA (\$ 2.2 billion). Brazil's chemical exports were valued at US\$ 1.3 billion, a 31% increase from the US\$ 1.0 billion recorded in 2019–2020.

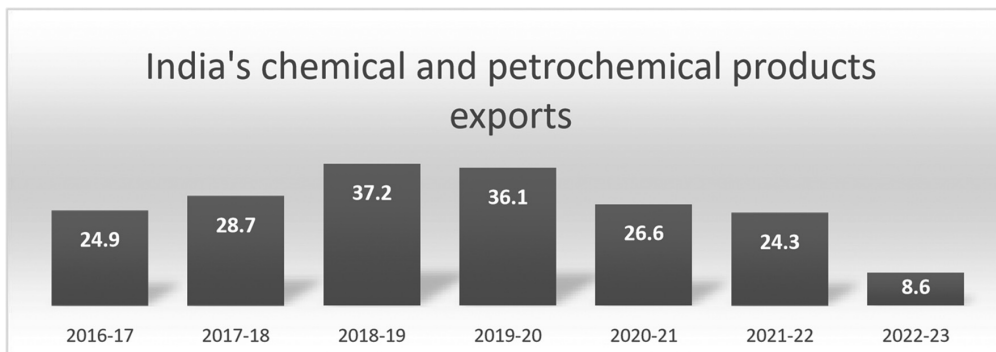


Figure 4: India's chemical and petrochemical products exports

2. Literature Review

Lodorfos, G., & Boateng, A. (2006) analysed the role of culture in the merger and acquisition process with special reference to the European chemical industry. This study highlights and evaluates the integration process of mergers and acquisitions (M&As) often encounters challenges related to cultural differences, which can contribute to the failure of many deals. However, there has been limited focus on identifying strategies to improve cultural integration and enhance the success of M&As. It aims to address this gap by examining the significance of culture and proposing a framework to enhance the outcomes of mergers and acquisitions.

Malik, M. F., Anuar, M. A., Khan, S., & Khan, F. (2014) highlighted that in the post-globalization era, mergers and acquisitions (M&A) have emerged as a significant form of corporate restructuring in Indian industries. M&A activities are viewed as a crucial strategy for firms to attain a competitive advantage. This study identified the factors that drive M&A transactions in the Indian pharmaceutical industry. By examining these determinants, the research seeks to enhance our understanding of the dynamics and motivations behind M&A in this particular sector.

Swaminathan, V., Murshed, F., & Hulland, J. (2008) found that value creation following merger and acquisition announcements. The role of strategic emphasis alignment tries to investigate that the Indian pharmaceutical industry experienced greater consolidation through mergers, acquisitions, alliances as well as sale of assets. Even though the mergers are dominated by the domestic firms, the foreign firms are actively participating in acquisition as well as alliances which became possible due to the dilution of various policy regulations. Most of the firms used it as a market 19 expansion strategy rather than as a technology enhancer

Beena Saraswathy, B. (2010) analyzed the cross-border mergers and acquisitions in India: Extent, nature and structure found that the global corporate sector is undergoing significant restructuring through mergers and acquisitions (M&A) to address the challenges posed by globalization. The study highlighted the nature and extent of such deals in India and emphasizes the role of the service sector in driving world FDI through M&A. The surge in cross-border deals can be attributed to both push factors from home countries and pull factors from foreign firms, such as market constraints, low-cost factors of production, global competition, wider markets, technology, and operational efficiency.

Gomes, E., Angwin, D. N., Weber, Y., & Yedidia Tarba, S. (2013) talks about the research about mergers and acquisitions (M&A) that has been going on for more than 50 years. In this article, the authors found that we need a way of looking at M&A that combines all the different ideas and perspectives. They also stated that we should pay attention to how these different ideas and factors work together, both at each step of M&A and between the steps. This will help us understand M&A better and how to make it successful.

Hassan, I., Ghauri, P. N., & Mayrhofer, U. (2018) re-evaluated M&A research, typically fixated on financial metrics and stock market reactions. It advocated for a comprehensive evaluation by linking tangible and intangible M&A motives, employing evaluation theory. Four international M&A case studies involving European companies are scrutinized. The findings emphasized aligning M&A outcomes with acquiring firms' motives, underscoring the importance of a holistic assessment encompassing pre- and post-merger phases.

Pradhan, J. P., & Abraham, V. (2005) revealed that most of these M&As originated from the service sector, primarily the software industry, and are often aimed at developed countries. Indian firms pursued overseas acquisitions to gain access to global markets, acquire valuable intangible assets like technology and skilled personnel, harness operational synergies, overcome limitations in their domestic market, and stay competitive. Additionally, the characteristics of overseas acquirers differ between the manufacturing and software sectors, with manufacturing firms being larger and research-focused, while software companies tend to be older, larger, and export-oriented.

Kumar, S., & Bansal, L. K. (2008) investigated the extent to which Indian corporate sector claims regarding synergy generation during mergers and acquisitions (M&As) are substantiated. It scrutinized whether the envisioned financial and operational synergies materialize in practice. The results unveiled that, in many M&A cases, acquiring firms were successful in realizing long-term synergies. These synergies took various forms, such as heightened cash flows, business expansion, diversification, and cost-cutting measures, validating the initial expectations articulated by the corporate sector.

Leepsa, N. M., & Mishra, C. S. (2016) explored the diverse motives behind mergers and acquisitions (M&A) in the corporate world. It acknowledged that M&A deals vary significantly and cannot be explained by a single theory. By reviewing existing literature and theories on M&A, the study assessed their impact on post-M&A company performance. It revealed that companies pursue M&A for various reasons, with synergy being a primary goal. The study's practical implication lies in helping managers make informed decisions about M&A strategies and growth objectives based on empirical evidence from real-world cases.

Shah, B. A. (2018) assessed how mergers and acquisitions (M&A) affected the value of listed companies in India's chemical and fertilizer sector. M&A is a prevalent strategy for rapid growth through corporate integration. The research examined the impact of M&A on operating and financial performance and shareholder wealth by comparing performance before and after deals. The findings showed that while performance improved post-M&A, the improvements weren't statistically significant. This suggests that M&A alone may not guarantee strong and efficient systems, as other factors also play a role. Longer-term assessments are needed to fully quantify M&A benefits.

3. Data and Methodology

This research paper provides an analysis of mergers and acquisitions (M&A) in the Indian Chemical Industry. The objectives of the study are as follows: Firstly, it aimed to identify and analyse major M&A deals that have taken place in the industry. Secondly, the research sought to understand different ways of valuing companies and calculate the average value of deals in relation to their earnings. Additionally, the study aimed to find the common challenges and risks faced by companies during the M&A process, particularly in terms of merging operations and integrating new employees. Lastly, the research analyzed the strategies employed by successful companies to make their M&A transactions successful within the Indian Chemical Industry.

This study used secondary data and considers 10 major Mergers and Acquisition deals from 2005 to 2021 in the Indian Chemical Industry. The data is collected from PROWESS, annual reports of companies, business news articles, and other reports. The enterprise value (EV) and EBITDA data were obtained from the annual reports of acquiring and target companies, respectively. EV/EBITDA ratios were calculated using Excel. The study also examined strategies and challenges identified from the annual reports. Overall, this study aimed to provide insights into M&A dynamics in the Indian Chemical Industry based on thorough data collection and analysis.

Table 1: Sample Companies and M&A included in the study

Date	Acquirer	Target
01-02-2019	UPL	Arysta Lifescience
05-06-2016	Sumitomo Chemical India Ltd.	Excel Crop Care Ltd. [Merged]
03-11-2020	Pidilite Industries Ltd	Huntsman Advanced Materials Solutions Private Ltd (HAMSPL)
12-09-2019	P I Industries Ltd.	Isagro (Asia) Agrochemicals Pvt. Ltd. [Merged]
02-06-2021	Rossari Biotech Ltd.	Unitop Chemicals Pvt. Ltd.
29-06-2005	Nirma	Saurashtra Chemicals
12-12-2017	Asian Paints	Reno Chemicals
18-06-2018	Tata Chemicals Limited	Allied Silica Limited
17-07-2021	Rossari Biotech Ltd.	Tristar Intermediates Pvt. Ltd.
05-12-2014	Atul Ltd	Amal Ltd

Source: Compiled by researcher from various websites

4. Results and Discussion

Based on the given data following results can be derived.

Table 2: The transactions taken for this study

Date	Acquirer	Target	EV	EBITDA	Target Sector
01-02-2019	UPL	Arysta Lifescience	31,615.00	3,028.84	Agro-chem
31-08-2019	Sumitomo Chemical India Ltd.	Excel Crop Care Ltd	4,158.00	NA	Agro-chem
03-11-2020	Pidilite Industries Ltd	Huntsman Advanced Materials Solutions Private Ltd (HAMSPL)	2,196.46	261.93	Adhesives, Sealants
12-09-2019	P I Industries Ltd.	Isagro (Asia) Agrochemicals Pvt. Ltd. [Merged]	443.20	131.00	Agrochemicals
02-06-2021	Rossari Biotech Ltd.	Unitop Chemicals Pvt. Ltd.	421.00	43.00	Specialty chemicals
29-06-2005	Nirma	Saurashtra Chemicals	350.00	-22.41	Soda ash
12-12-2017	Asian Paints	Reno Chemicals	159.52	31.26	NA
18-06-2018	Tata Chemicals Limited	Allied Silica Limited	123.00	NA	Precipitated silica
17-07-2021	Rossari Biotech Ltd.	Tristar Intermediates Pvt. Ltd.	120.00	15.60	Speciality Chemicals
05-12-2014	Atul Ltd	Amal Ltd	NA	-0.58	Bulk Chemicals

Source: Compiled by researcher from various websites

4.1 UPL-ARYSTA

About the Companies

UPL Limited, headquartered in Mumbai, India, is a global agricultural solutions company operating in over 130 countries. UPL specializes in providing a comprehensive range of crop protection, post-harvest food preservation, and pest management solutions. With a diverse portfolio of agrochemicals including insecticides, herbicides, fungicides, and plant growth regulators, UPL caters to a wide variety of crops and aims to enhance yield and quality while promoting sustainable agricultural practices.

Arysta Life Science Inc. was a global agricultural company that focused on crop protection and life science products. With a diverse portfolio of solutions including insecticides, fungicides, herbicides, and seed treatments, Arysta aimed to provide farmers with effective tools for crop health and protection. The company had a strong global presence, operating in numerous countries and serving farmers across various regions.

Transaction details

The acquisition of Arysta by UPL was one of the biggest transactions that happened in the industry. UPL Limited completed the acquisition of Arysta LifeScience Inc., in July 2018. The deal, valued at approximately \$4.2 billion, allowed UPL to expand its global footprint and strengthen its position in the agrochemical industry. Arysta LifeScience brought a diverse portfolio of crop protection and life science products to UPL's existing offerings, enhancing its ability to provide comprehensive solutions to farmers worldwide. The acquisition aimed to leverage synergies between the two companies and drive growth through increased market presence, expanded product offerings, and enhanced research and development capabilities. The acquisition was debt-funded, and the benefits from the combined reach of the two companies were projected to pay for the incremental debt within a stipulated time, making the acquisition earnings-accretive for investors. The transaction details are given in Table No. 3. It can be understood from the table that the acquisition was successful. The financial ratio before and after acquisition is given in Table No. 4. It can be observed from the table that there has been a significant increase in the financial performance of the company before and after the acquisition.

Table 3: Targets and Results of the acquisition of UPL-ARYSTA

Targets	Results
\$110 million of Cost Synergy in first year	\$102 million of Cost Synergy in May 2020
\$350 million of Revenue Synergy	\$223.3 million in May 2020
Portfolio of more than 12,400 product registrations	In March 2021, they had 13,932 product registrations
EPS accretive by ~INR 10 to 12 in FY 2020	EPS value in FY 2019 = 19.52 EPS value in FY 2020 = 23.24

Table 4: Financial Ratios before and after the Acquisition

	After			Before	
Ratios	2023	2022	2021	2020	2019
Price to Earnings (x)	15.08	16.26	17.12	14.06	21.80
Asset Turnover Ratio (x)	0.77	0.73	0.66	0.64	0.61
ROCE (%)	15.70	15.26	13.47	9.60	9.20
Basic EPS (Rs.)	47.60	47.40	37.53	23.22	29.24

Source: compiled by researcher from sihl.com

4.2 PIDILITE INDUSTRIES - HAMSPL

About the companies

Pidilite Industries Limited is an Indian multinational company that has made a significant mark in the adhesives, sealants, construction chemicals, and consumer products industries. With its flagship brand, Fevicol, Pidilite has become a household name in India and has expanded its presence globally. The company offers a diverse range of products that cater to various sectors and consumer needs. Its products are known for their quality, reliability, and effectiveness, making them the preferred choice of professionals and consumers alike.

Huntsman Group is a leading global producer of differentiated organic chemical products. HAMSPL manufactures and sells Adhesives, Sealants and other products under well-known brands such as Araldite, Araldite Karpenter and Araseal. HAMSPL has a nation-wide distribution network and a strong presence in Retail Trade.

Transaction details

This transaction happened in 2020 and was a 2600cr deal. The deal also includes the company's Indian subcontinent business, apart from a trademark licence for the Middle East, Africa and ASEAN countries. Pidilite acquired Huntsman as it was a competitor company who also manufactured and sold adhesive and sealant products. They strategically eliminated competition which allowed them to become a market leader in adhesives. The transaction details are given in Table No. 5. It can be understood from the table that the acquisition was successful. The financial ratio before and after acquisition is given in Table No. 6.

**Table 5: Targets and Results of the acquisition of
PIDILITE INDUSTRIES - HAMSPL**

Targets	Results
Diversify the portfolio with HAMPSL as it is a market leader in epoxy adhesives.	By Nov 2021, PAPL contributed to 7.6% of the total sales and 11.9% of total EBITDA
Increase the market geography as they have trademark license for the Middle East, Africa and ASEAN countries	During 2021-22 PAPL achieved robust sales growth and profitability
Create shareholder value through strong revenue and cost synergies.	In 2021-22, Net Sales of PAPL was 496 cr and EBITDA at 161 cr.

Table 6: Financial Ratios before and after the Acquisition

	After				Before	
Ratios	2023	2022	2021	2020	2019	2018
Price to Earnings (x)	93.97	103.35	81.31	61.74	68.24	60.3
Asset Turnover Ratio (x)	1.18	1.08	0.95	1.17	1.28	1.25
ROCE (%)	25.18	26.48	29.86	33.81	34.37	37.82
Basic EPS (Rs.)	25.05	23.76	22.26	21.97	18.21	18.95

Source: compiled by researcher from screener

4.3 P I INDUSTRIES AND ISAGRO(ASIA)

About the companies

PI Industries Ltd is an Indian company operating in the agrochemical and custom synthesis sectors. The company is primarily engaged in the manufacturing and marketing of a diverse range of agrochemical products, including insecticides, herbicides, fungicides, and plant growth regulators. With a strong focus on innovation and research, PI Industries aims to provide effective solutions for crop protection and enhance agricultural productivity.

Isagro Asia is the Asian subsidiary of Isagro S.p.A., the Italian multinational company operating in the agricultural and environmental sectors. Isagro Asia focuses on providing agricultural solutions and crop protection products specifically tailored to the Asian market. The subsidiary

operates in various countries across Asia and serves farmers and agricultural stakeholders in those regions. With a localized approach and a deep understanding of the Asian agricultural landscape, Isagro Asia aims to contribute to sustainable agriculture practices and support the region's food production needs.

Transaction details

The main aim of this deal was to diversify the portfolio of PI Industries. This acquisition allowed the company to enter into agrochemicals. Through diversification of product portfolio, they could enter into new market and also diversify the risk focus from one business. The value of the transaction was 443.20 cr. Isagro complemented PI's market segments and their portfolio. To focus on both, they kept it separate and not dilute the areas Isagro's doing well. Therefore, after the acquisition, PI split Isagro into two parts. One, which was the manufacturing facilities were merged with PI since it complemented each other. The second was the domestic segment which is the plantation segment of Isagro was merged with Jivagro, a subsidiary of PI which grew agriculture and fruits. To reap the complete benefits of the transaction, the company board passed an enabling resolution to authorize the company to raise an additional fund of 20 billion. The transaction details are given in Table No. 7. It can be understood from the table that the acquisition was successful. The financial ratio before and after acquisition is given in Table No. 8.

Table 7: Targets and Results of the acquisition of P I INDUSTRIES AND ISAGRO

Targets	Results
Enter the Agro chemical market	BY 2021, they completely integrated.
Increase the capacity to meet growing demands. Enhance capacity utilization from current ~50% in Q4 FY21 to >80%	Capacity utilization in Q1 FY22 at Isagro facility improved to more than 80%
To be one of the leading players in the horticulture segment in India	Specialist Horticare Solutions for Indian Farms.

Table 8: Financial Ratios before and after the Acquisition

	After			Before	
Ratios	2022	2021	2020	2019	2018
Price to Earnings (x)	50.82	46.42	35.35	34.70	33.33
Asset Turnover Ratio (x)	0.65	0.73	0.79	0.79	0.70
ROCE (%)	17.40	22.09	23.13	25.10	25.18
Basic EPS (Rs.)	55.51	48.57	33.09	29.72	26.64

Source: compiled by researcher from screener

4.4 ROSSARI BIOTECH LTD.- UNITOP CHEMICALS PVT. LTD. & TRISTAR INTERMEDIARIES

About the companies

Rossari Biotech Ltd is an Indian specialty chemicals company that is engaged in the manufacturing and marketing of innovative and sustainable solutions across multiple industries. With a diverse portfolio of products and services, Rossari Biotech caters to sectors such as textiles, animal health and nutrition, home and personal care, performance chemicals, and construction chemicals. The company's product range includes specialty chemicals, enzymes, surfactants, polymers, and other additives that are used in various applications. Rossari Biotech focuses on providing customized and value-added solutions to meet the specific requirements of its customers. With a strong emphasis on research and development, the company continuously strives to develop eco-friendly and sustainable products. Rossari Biotech has a wide customer base, serving both domestic and international markets.

Unitop Chemicals Pvt. Ltd. was incorporated on 11th August 1980 for Manufacturing Surfactants and speciality Chemicals, having Head Office in Andheri Mumbai. It is registered under the Directorate of Industries, Maharashtra.

Tristar Intermediates Pvt. Ltd. is one of the Largest Speciality Chemicals Company. Tristar Intermediates offers an extensive product portfolio as a leading manufacturer of preservatives, aroma chemicals, and home and personal care additives in India.

Transaction details

Rossari acquired Unitop at 421 cr in June 2021. The main objectives for this acquisition was to bring revenue and cost synergies, complementary growth dimensions and value accretion for Rossari. Rossari acquired Tristar at 120 cr in July 2021. The main objectives for this acquisition was to get cross selling opportunities, access to new technology and value accretion for Rossari. To make sure they turned both of these acquisitions into successful ones, Rossari had focused on identifying important prospects that may be obtained from these acquisitions and training the people to work towards the same. They had invested and hired experts/consultants to identify their workforce needs and training the people. The focus was on re-training and re-evaluating them.

The financial ratio before and after acquisition is given in Table No. 9. It can be observed from the table that there has been a significant increase in the financial performance of the company after the acquisition.

Table 9: Financial Ratios before and after the Acquisition of Rossari Biotech

	After		Before
Ratios	2022	2021	2020
P/E (x)	62.91	67.51	0.00
Asset Turnover Ratio (%)	1.45	1.22	1.49
ROCE (%)	24.37	28.81	37.93
Basic EPS (Rs.)	17.74	17.74	17.74

Source: compiled by researcher from screener

4.5 TATA CHEMICALS LIMITED AND ALLIED SILICA LIMITED

About the companies

Tata Chemicals Limited is an Indian multinational company with diverse business operations. The company operates in various sectors, including chemicals, fertilizers, and consumer products. Tata Chemicals has established itself as a leading manufacturer and marketer of a wide range of chemicals, fertilizers, and salt products. Their extensive product portfolio includes soda ash, sodium bicarbonate, specialty chemicals, crop nutrients, and salt for industrial and consumer applications.

Allied Silica Limited is an Indian company that specializes in the production and supply of silica-based products.

Transaction details

The transaction was completed in June 2018. Tata Chemicals paid 123 cr for the acquisition. They acquired Allied Silica to manufacture Highly Dispersible Silica (HDS) and other silica based products developed at Tata's Innovation Centre. In 2018-19, they focused on making the operations of the plant more efficient. This acquisition is part of a larger planned investment in the business including planned expansion of capacity and continued investment in R&D and Sales & Distribution capability. The financial ratio before and after acquisition is given in Table No. 10. It can be observed from the table that there has been a significant increase in the financial performance of the company before and after the acquisition.

Table 10: Financial Ratios before and after the Acquisition

	After				Before
Ratios	2022	2021	2020	2019	2018
Price to Earnings (x)	19.76	75.19	0.81	12.95	9.4
Asset Turn-over Ratio (%)	0.16	0.14	37.4	38.41	39.68
Return on Capital Employed (%)	6.55	4.08	7.71	7.06	8.26
Basic EPS (Rs.)	49.37	10.06	275.02	45.38	95.51

Source: compiled by researcher from screener

4.6 NIRMA -SAURASHTRA CHEMICALS

About the companies

Nirma is a group of companies based in the Indian city of Ahmedabad, that manufactures products ranging from detergents, soaps, cement, cosmetics, salt, soda ash, LAB and injectables. Saurashtra Chemicals was a Porbander-based soda ash manufacturer, who was a direct competitor of Nirma.

Transaction details

Saurashtra was running on a loss of -22.41 when Nirma acquired it. The transaction happened in June 2005.

4.7 ASIAN PAINTS AND RENO CHEMICALS

About the companies

Asian Paints Limited is a leading multinational paint company based in Mumbai, India. With a rich history spanning over eight decades, Asian Paints has established itself as a prominent player in the global paint industry. The company primarily operates in the decorative paints segment, offering a wide range of interior and exterior wall paints, enamels, wood finishes, and ancillary products. Asian Paints' products are known for their high quality, durability, and aesthetic appeal, making them a preferred choice among consumers, architects, and contractors. The company has a strong distribution network, ensuring its products are easily accessible across India and in over 15 international markets. In addition to its decorative paints business,

Transaction details

Asian Paints acquired Reno Chemicals Pharmaceuticals and Cosmetics Pvt. Ltd for 159.52 crore in cash. The company bought 4,950 equity shares of Reno at 3,22,258 apiece. Asian Paints purchased Reno to use its land and building to meet its own growing infrastructure requirements. Reno's land is located in Santacruz East area of Mumbai, near Asian Paints' own office. In 2020, the assets were completely transferred to Asian paints.

4.8 ATUL LTD-AMAL LTD

About the companies

Atul Ltd (Atul) is an Indian integrated chemical company that was founded by Kasturbhai Lalbhai on September 5, 1947. Atul manufactures a wide range of 900 products and 400 formulations, and it owns an impressive portfolio of 140 retail brands. The company caters to around 4,000 customers across 30 diverse industries. In order to better serve its customers, Atul has established subsidiary companies in various countries, including the United States, the United Kingdom, the United Arab Emirates, China, and Brazil.

Amal Ltd is a chemical company engaged in manufacturing and marketing of products based on Sulphur. The plant is located in Ankleshwar, Gujarat, India. They manufacture bulk chemicals

such as Sulphuric acid and Oleum and their downstream products like Sulphur dioxide and Sulphur trioxide. These products find their use in several industries like Dyes, Fertiliser, Personal Care, Petrochemical, Pharmaceutical and Textile.

Transaction details

Amal Ltd was a sick company and registered with the Board for Industrial and Financial Reconstruction (BIFR) for revival. Atul Ltd was its only secured creditor and thus took over 80% of the shares of Amal Ltd.

4.9 SUMITOMO CHEMICAL INDIA LTD- EXCEL CROP CARE LTD

About the companies

Sumitomo Chemical India Ltd. (SCIL) manufactures, imports and markets products for Crop Protection, Grain Fumigation, Rodent Control, Bio Pesticides, Environmental Health, Professional Pest control and Feed Additives for use in India. SCIL has also marked its presence in Africa and several other geographies of the world. Excel Crop Care Limited (Excel) was formed in 2003 when Excel Industries Limited's portfolio of agricultural inputs was demerged, and with the strength of its three manufacturing facilities in Silvassa, Gajod, and Bhavnagar. Since 1941, Excel Industries Limited has led the manner within side the improvement of commercial and overall performance chemical substances in addition to agricultural inputs.

Transaction details

The transaction was valued at 4158 cr and was completed in August 2019. Sumitomo Chemical views India, which is the fifth-largest agrichemical market in the world, and which is expected to have a high rate of growth, as a key market for its agrichemical business. As a result of this merger, Sumitomo Chemical India will have the second-largest sales of any company in India's agrichemical market. Sumitomo Chemical India will further expand its sales by fully leveraging the rich product portfolios and established sales networks of ECC and former Sumitomo Chemical India in a mutually complementary manner. At the same time, Sumitomo Chemical India will strengthen its competitiveness by making more focused and efficient use of its management resources to become a leading company in India's agrichemical market. Given the similarity in businesses and high degree of operational complementarity, the merger was expected to usher in long term benefits by creating an enterprise of scale with comprehensive product offerings. Some of the key operational synergies and process efficiencies that the merger is expected to create include the following:

- Possibility of increasing sales through co-selling and by utilising the wider network of over 13,000 distributors in India;
- Operational synergy to support R&D and product launch activities, thereby reducing business risk through product portfolio expansion and customer concentration.
- With SCC Japan as its parent company, an innovative firm, ECC's products will benefit from increased credibility in the international market by utilizing SCC Japan's global reach.

5. Findings of the Study

Successful mergers and acquisitions (M&As) require thorough planning and analysis due to their large scale. Finding synergistic benefits from the acquired company requires ongoing assessment even after the deal. It's crucial to remember that although the first year after an M&A may show strong earnings and higher sales, the true benefits usually become evident only in the years that follow. Many firms decide to raise more money in order to facilitate the development and expansion of the assets they have acquired.

Gaining geographical advantages, growing the customer base, and creating cross-selling opportunities are common benefits of mergers and acquisitions. However, it can be difficult to integrate several operating systems and make sure that new employees share the organization's values and culture. Most businesses create dedicated integration teams in order to overcome these obstacles and guarantee a smooth transition. Additionally, Mergers and Acquisitions have the potential to lower manufacturing costs and facilitate the integration of research and development efforts, which will ultimately improve overall performance. Increasing the probability for continuous revenue creation can be achieved by diversifying the company's portfolio through acquisitions. Even though some companies, such as Nirma and Pidilite, have acquired their competitors to eliminate competition and capture their market share, the majority of the companies looked at in the study conducted M&As in order to diversify their product lines and expand their markets domestically and internationally.

Table 11: Calculation of Average and Median of EV/EBITDA

Companies	EV	EBITDA	EV/EBITDA
Nirma - Saurashtra Chemicals	350.00	3,028.84	NA
Atul Ltd - Amal Ltd	Na	NA	Na
Asian Paints - Reno Chemicals	159.52	261.93	5.1
Tata Chemicals -Allied Silica	123.00	131.00	Na
UPL- Arysta Lifescience	31,615.00	43.00	10.4
Sumitomo.- Excel Crop	4,158.00	-22.41	NA
P I -Isagro	443.20	31.26	3.4
Pidilite-HAMSPL	2,196.46	NA	8.39
Rossari -Unitop	421.00	15.60	9.8
Rossari-Tristar	120.00	-0.58	7.7
Average			7.47
Median			8.045

Source: Calculated by researcher

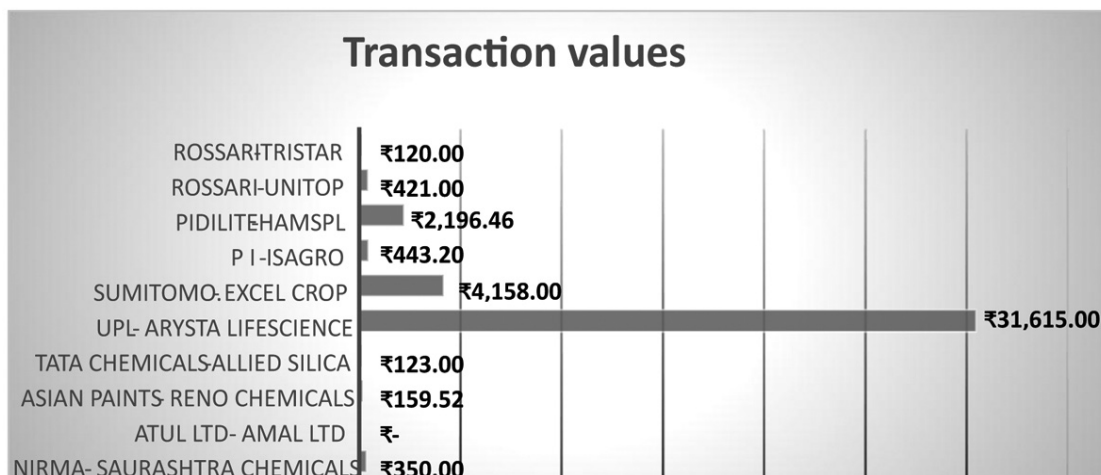


Figure 5: Transaction Values

Source: compiled by researcher

- Average EV/EBITDA of the industry = 7.47
- The highest EV/EBITDA was of the UPL- ARYSTA transaction.
- The smallest was PI-ISAGRO transaction's EV/EBITDA which is 3.4

6. Conclusion

In conclusion, this study sheds light on the intricate world of mergers and acquisitions (M&A) within the Indian Chemical Industry. Given their huge scope and innate complexity, it emphasises the importance of detailed preparation and thorough analysis in carrying out successful M&A transactions. One key takeaway is the significance of continuous post-acquisition evaluation, as the true benefits of these transactions often reveal themselves in the years that follow. Companies need to be constantly on the lookout for synergy benefits and making adjustments to the changing environment. The study emphasises that while revenues and sales may skyrocket in the first year following an M&A, the long-lasting benefits take time to manifest. Considerable thought must be given to issues like integrating operating systems and integrating new hires into the organization's values and culture. Moreover, the study highlights the diverse benefits of M&A, including geographical advantages, expanded customer bases, and cross-selling opportunities. Many companies also leverage additional funds to nurture the growth of acquired entities and diversify their portfolios, ultimately fostering stable revenue streams.

In summary, this research underscores that M&A transactions in the Indian Chemical Industry hold significant potential, but their realization hinges on meticulous planning, diligent execution, and ongoing adaptation to changes in the corporate landscape.

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