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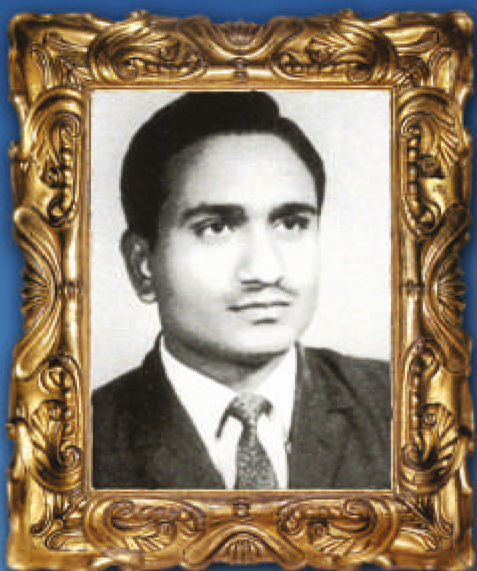
A TRUE VISIONARY

"You see things and you say **Why**? *But I dream of things that never were and say* **Why** *not?"*

- George Bernard Shaw



Shri Jagannath Gupta
(1950 - 1980)

Also a true visionary...who dared to dream!
He lives no more but his dreams live on....and on!

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And more dreams to come!

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Editor's Desk

"Fostering Global Peace: A Shared Responsibility"

In a world marked by turmoil and division, the pursuit of global peace remains one of humanity's most pressing imperatives. As we navigate the complex challenges of the 21st century, it is crucial to recognize that the responsibility for achieving global peace lies not with a single nation or organization, but with all of us collectively. Global peace is more than just the absence of armed conflict; it encompasses the promotion of harmony, cooperation, and the resolution of disputes through peaceful means. It is a vision of a world where individuals of all nations and backgrounds can live in safety and prosperity, free from the fear of violence and oppression.

Our world faces a myriad of challenges that threaten this vision, from regional conflicts to climate change, poverty, and social injustice. These problems are interconnected and can exacerbate one another. Tackling them requires a united effort and a shift in our collective mindset. Here are some key aspects that can guide us toward achieving global peace:

Diplomacy and Dialogue: Diplomacy should be the primary means of resolving disputes between nations. Open and respectful dialogue can prevent conflicts from escalating and enable peaceful coexistence.

Education and Awareness: Educating people, particularly the younger generations, about the importance of tolerance, cultural diversity, and the consequences of conflict is crucial. Informed citizens are more likely to advocate for peace.

Conflict Prevention: Early detection and proactive measures to prevent conflicts from erupting are vital. Addressing the root causes, such as inequality and resource scarcity, can be an effective approach.

International Cooperation: Global challenges, like climate change and pandemics, require coordinated efforts on an international scale. Nations must work together to find common solutions.

Human Rights and Social Justice: Respecting and upholding human rights is a cornerstone of global peace. Promoting equality, justice, and inclusivity is essential in reducing the potential for conflict.

Economic Stability: Economic prosperity can contribute to peace by reducing the desperation that often fuels conflict. Fair trade, poverty reduction, and economic development can be powerful tools.

Cultural Exchange: Fostering cultural exchange and understanding can bridge divides and foster empathy among different communities and nations.

Environmental Sustainability: Protecting the environment is intertwined with peace. Climate-related conflicts can arise from resource scarcity and displacement.

International Institutions: Strengthening international organizations like the United Nations and supporting multilateral agreements can provide a platform for resolving global issues peacefully.

Individual Responsibility: Each of us has a role to play in promoting peace in our daily lives. We can advocate for peace, support organizations working towards it, and strive to be peacemakers in our communities.

In our interconnected world, global peace is a shared responsibility that transcends borders and ideologies. It requires the commitment of governments, civil society, and individuals alike. Achieving global peace is not an easy task, but it is a noble one. We must remember that the cost of conflict is immeasurable, while the benefits of peace are boundless.

As we look to the future, let us recommit ourselves to the pursuit of global peace, recognizing that by working together and valuing our shared humanity, we can build a more peaceful world for generations to come. The challenges may be daunting, but the rewards are immeasurable: a world where the flames of conflict are replaced with the warmth of understanding, cooperation, and lasting peace.

(**Madhu Vij**)

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IMPACT OF JOB SATISFACTION ON EMPLOYEES PERFORMANCE: ANALYTICAL STUDY ON MEDICAL EQUIPMENT MANUFACTURING INDUSTRIES IN DELHI/NCR

Richa Nangia* Richa AroraNidhi Gupta***Vijay Anand Dubey******

Purpose: *Research conducted to identify the impact of job satisfaction on employees' performance (Employees Technical supervision, working condition, interpersonal relations towards their job) in medical equipment manufacturing industries in DELHI/NCR.*

Methodology: *For our research study we have selected the eight-manufacturing industry of medical equipment's from Delhi/NCR. Research concludes that there is correlation between extrinsic factors and performance of employees and the correlation between intrinsic factors and performance of employees. Data has been collected through self-structured questionnaires. For conducting our research work we circulated 506 questionnaires to operational level employees and 46 questionnaires to managerial level employees. It has been concluded from the study that there exists a correlation between extrinsic variables and performance of employees and there exist relation between intrinsic variables and perform ace of employees. Employees want to feel satisfied, to do well at their job and feel they are making a valuable contribution.*

Findings: *It has been determined from this research that employees are delivered regular feedback for their work. Workers are well informed of short-term goals that are assigned to them which clearly indicate the performance expected out of them at work. workers are well informed that apart from their monetary benefits like salary, totally depends on their performance, employees are getting good learning opportunities, all these factors help in supporting the performance of employees who are working in the manufacturing industries.*

Originality/Value: *The major groups of interest (i.e., management students, academicians, researchers, practicing managers) will be able to understand the Impact of Job Satisfaction on Employees Performance particularly in Medical Equipment Manufacturing Industries.*

Keywords: *Job performance, employee productivity, employee's performance, motivation, manufacturing industry*
JEL Classification Codes: *M12, M54, M50, I1, L6, I3.*

Job Satisfaction

Job satisfaction, an unquantifiable measurement, is characterized as a positive enthusiastic reaction you experience while going about your business or when you are available working. Driving associations are presently attempting to quantify this inclination, with work fulfillment studies turning into a staple all things considered working environment. It's memorable critical that work fulfillment shifts from one representative to another. In similar working environment under similar circumstances, the variables that assist one representative with having a decent outlook on their occupation may not have any significant bearing to another worker. Workers job satisfaction is the sentiments and thought of employees about their work and work environment. In result, work fulfillment is going to fulfill the one's necessities in working spot. There are a few components, which are identified with work fulfillment that is work substances, age, sex, instructive level, work place climate, area, associates, pay and timing of work. With the end goal of worker fulfillment numerous speculations have been created. The main hypothesis is Maslow's need hypothesis. It depends on human various leveled needs. Then again, work fulfillment identifies with huge regular perspectives. Maslow's hypothesis depends on major and outer component, for example, achievement, affirmation, obligation, pay, plan, relational cooperation, the board, and operational environment.

Statement of the Research problem

Organizations at this competitive age, is in a string aim of recruiting and holding the most reasonable employees. To achieve this objective, performance evaluation has become a solid need for both the representatives and managers in various fields. On assessing representatives in consonance with their expert and social viewpoints, various mental and social highlights are additionally to be accounted into. In a serious business climate wins all around the globe, this course of assessment has arisen into an unrivaled component of helping and dealing with the exhibition of representatives.

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This methodology perpetually gauges the commendable commitments of a representative overall and subsequently recognizes the basic relationship of execution with workers' mental factors like work fulfillment, the capacity to understand individuals on a profound level, hierarchical citizenship conduct, work inspiration, proficient uprightness, and so forth. This study attempts to distinguish the impact of employee satisfaction aspects on employee’s performance of workers of the medical device manufacturing Industry.

Objectives of the Research Study

- To determine the relationship between extrinsic variables and employees performance.
- To determine relationship between intrinsic variables and employees performance.
- To determine the effect of employees job satisfaction on the employees performance working in medical device manufacturing industry.

Significance of the study

This study depicts the degree of job satisfaction among the employees who are working in the medical equipment manufacturing industry of DELHI/NCR. Such study provides the adequate knowledge on job satisfaction and further help to understand the impact on job performance of employees.

Hypothesis of the Research Work

$H1_0$: There exists no positive correlation between an extrinsic factors and performance of employees.
$H1_1$: There exists a positive correlation between extrinsic factors and performance of the employees.
$H2_0$: There exists no positive correlation between intrinsic factors and performance of employees.
$H2_1$: There exists a positive correlation between intrinsic variables and performance of the employees.

I. Review of Literature

Speculation of relative model is that on the off chance that the fulfillment is superfluous in nature, by then, it prompted execution and satisfaction, assuming there should be an event of a characteristic quality in satisfaction.
Tripathi (2009) The term “work fulfillment alludes to a worker's general mentality towards his work." The work will be palatable assuming that the singular's occupation satisfies his prevailing need and assuming it is consistency with his assumptions.
Keith Davis (2007), "job satisfaction communicates the demeanor towards one's work, the contrast between how much rewards laborers get and the sum that they accepted that ought to get." Thus work fulfillment addresses a demeanor rather than behavior.
Porter and Lowler (1969) proposed that fulfillment will influence a laborer's work, contending that expanded fulfillment from execution plausibility assists with expanding assumptions for execution prompting rewards.
David and William (1970) recommended that the sort of remuneration framework under which laborers perform unequivocally impact the satisfaction performance relationship.

Cripen chipnuza(2017) Inferred that a hopeful view for the workers on the association's local area, fruitful associations with collaborators, bosses' consolation. Members are genuinely satisfied with work possibilities, and the wages were not acceptable. At long last, the association between the environment of the organization and fulfillment at the specific employment is significant.

Shanmugapriya(2016) The representatives of public area banking thought that the state banks had a ocean turn in their outcome in dissecting determinants of occupation fulfillment. In addition, the monetary and monetary market changes have started. Different elements have made India one of the world's quickest developing economies, including opening the worldwide business sectors, transforming the financial framework, rising venture levels, the proactive administrative scene, and its segment profile.

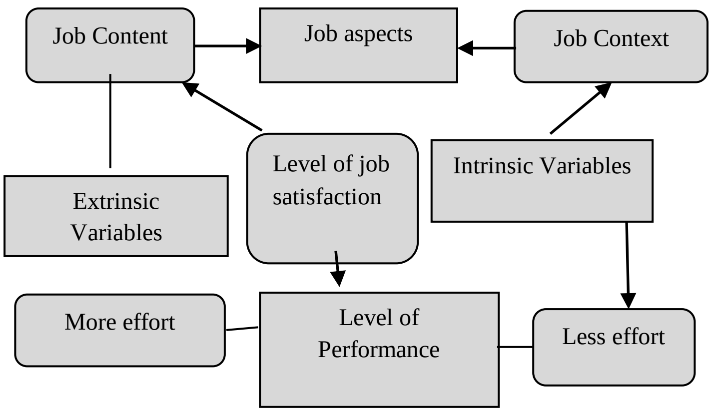
Depika pandita(2020) Concentrate on shows that Intrinsic factor like inventiveness and extraneous factor like acknowledgment prompts work satisfaction. Study likewise shows that Intrinsic factors are exceptionally connected with Generally work fulfillment in IT industry.

Neeraj kumar(2016) The analyst focuses on the aspects of motivating forces and monetary benefits, and individual acknowledgment, which has a predominant capacity to play, factors like the organization's objectives, the standing and validity of the organization, supportability with the job, and the character of the worker.

Troesh and Bouer(2017) Examined work fulfillment and stress in second profession instructors contrasted with first vocation educators and the job of self-adequacy in this unique circumstance. Results showed that subsequent vocation instructors are exceptionally loaded up with fulfillment with their occupation than first vocation educators.

Makipaa(2019)Inspiration, development, maintenance and efficiency rise when cooperation, arrangement with objectives, work fulfillment, working environment prosperity, maintenance also, entrust with collaborators deal with the improvement of worker commitment inside the association.
According to the above literature review and to achieve the research objectives the conceptual framework has been developed.

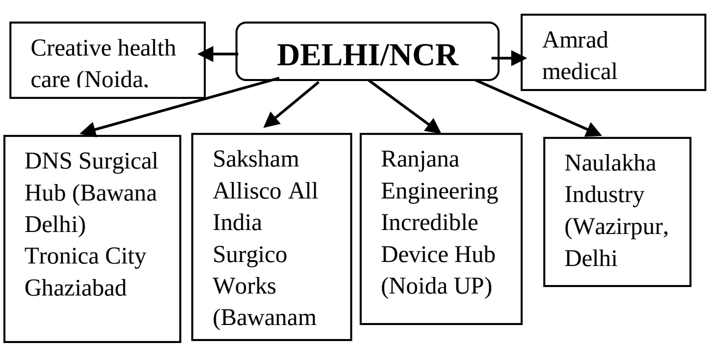
Fig: Conceptual Model



II. Research Design and Methods

Kind of research:
This research is about impact of job satisfaction on employee's performance. For our study we selected the top eight medical equipment manufacturing companies. For this purpose we also checked the determinants of job satisfaction like working condition, recognition, work itself, interpersonal relations on the measure of employee's performance and their productivity in the medical device manufacturing industry. We will use the SPSS version to analyze our data.
Variables of the Research study:
We have selected the two variables for the study: (a) extrinsic variables (b) intrinsic variables

Target Population:
The target population included the managerial and non-managerial personnel's from eight different manufacturing industries of Delhi/NCR.



There were total 46 managers and 504 employees from all medical device manufacturing industries. All were included as the sample for the research. 504 questionnaires were circulated for non-managerial level. for the non-managerial level, we received response from questionnaires, 60 were from creative health care, 57 were from DNS surgical hub, 70 were from Sakhsham Allisco, 66 were from all India Surgico, 64 were from Ranjana Engineering, 70 were from incredible device hub, 72 were from Naulakha industry, 45 were from Amrad medicals. 46 questionnaires were circulated to all the managers of eight medical device manufacturing industries, we received response from questionnaires, 6 were from creative health care, 6 were from DNS surgical hub, 7 responses were from Sakhsham Allisco, 5 were from all India Surgico, 7 were from Ranjana Engineering, 4 were from incredible device hub, 5 were from Naulkaha industry and 6 were from Amrad medicals.
Sample Size:
The Sample size of 550 was drawn for the purpose of carrying out of this research. 504 were the employees from operational level and 46 were from the top managerial level of the medical equipment manufacturing industries of DELHI/NCR.

Method of Data Collection:
The researcher collected the primary data pertaining to attitudes related to the job satisfaction, performance of employees. in order to collect the primary method to collect the data was questionnaires. For the purpose of data collection, two questionnaires were developed separately for measuring job satisfaction and employee's performance and has been circulated to both managerial and non-managerial level. The respondents are instructed to tick an appropriate box for each question. The questionnaires contained questions related to the company policy, Technical supervision, interpersonal relations, salary, working condition, achievement, recognition, pay, and promotion.
(1) Questionnaire I for Managerial Level
(2) Questionnaire II for Non-Managerial Level

Limitations of the research study:
Following are the few limitations of the study:

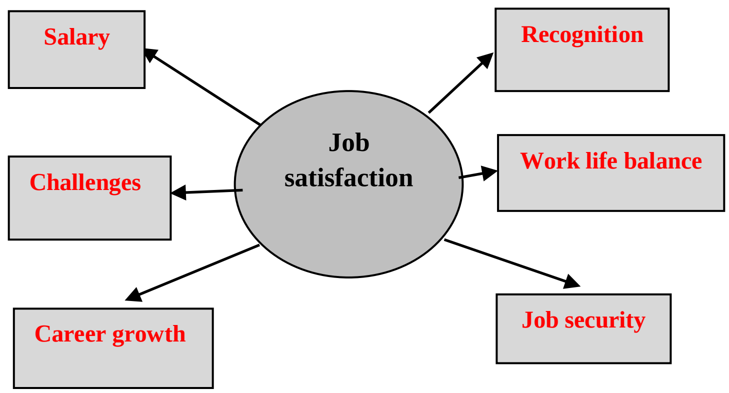
Sample Selection – There are total 35 medical device manufacturing industries in Delhi/NCR, 6 in Delhi and 29 in NCR. In our study we have selected 4 from Delhi and 4 from NCR. To give more proper view work has to be done on more number of industries so that response for whole medical manufacturing industries can be achieved and more detail view of the job satisfaction and employees performance can be studied.

Data Collection - A questionnaire is an instrument used to gather information related to the research work. In order to quantify the research findings multiple choice and close ended questionnaire will be designed with the research objectives in mind. This method enabled one to collect the different views and opinions. Other methods could be used for collecting the data. Apart from questionnaires personal interview or other methods can be used.

III. Result and Discussion

Impact of Job Satisfaction on Employees Performance

Work fulfillment and representative execution have been investigated on various events yet in the present market where the market situation and rivalry is on an alternate level, it is essential to get the worth of execution of the HR of the organization. Work fulfillment is an inspirational tone that makes remarkable exhibitions in any organization and subsequently, it tends to be supposed to be the foundation of the organization. Our review depends on the positive connection between work fulfillment and worker execution which eventually prompts the effectiveness in the association. Representative execution upgrade needs the making of a superior climate in the association which eventually prompts work fulfillment. Yet, the formation of a superior climate comprises of a few components like inspiration, reward framework, motivating forces, and so on which adds to worker execution in the organization. Attainment of a general exhibition through usefulness and productivity has been an all the time hierarchical objective of high need. To do that exceptionally fulfilled work force is a totally need for accomplishing an elevated degree of execution headway of an association. Fulfilled specialist prompts stretch out more work to work execution, then, at that point, works harder and better. Along these lines each association attempts to make a fulfilled work power to work the prosperity of the association. Notwithstanding, the absolute hierarchical exhibition relies upon proficient and powerful execution of individual representatives of the association. Subsequently, every association puts an impressive dependence on their singular representative execution to acquire high efficiency in the association. Worker exertion is a significant variable that decides a singular presentation will be. When a worker feels a fulfillment about the gig, he/she is spurred to do grater work to the gig execution. Then, at that point, it will in general build the general presentation of the association.



Correlation between Extrinsic Variables and Performance of Managers

Correlation is computed to determine that there exists any relationship between extrinsic variables with variables of performance of managers.

Table 1: Correlation between Extrinsic Variables and Performance of Managers

	Company policy	Technical supervision	Interpersonal Relation	salary	Working condition	Performance
Company policy						
Pearson Correlation	1	.599**	-.274	.153	-.042	.085
Significant 2-tailed		.000	.066	.309	.780	.573
N	46	46	46	46	46	46
Technical supervision						
Pearson Correlation	.559**	1	.167	.111	.120	.150
Significant 2-tailed	.000		.266	.463	.427	.320
N	46	46	46	46	46	46
Interpersonal Relations						
Pearson Correlation	-.274	.167	1	-.022	.237	.017
Significant	.066	.266		.884	.113	.911
	46	46	46	46	46	46

2-tailed N						
Salary Pearson Correlation Significant 2-tailed N	.153 .309 46	.111 .463 46	-.022 .884 46	1 46	.165 .272 46	-.247 .098 46
Working condition Pearson correlation Significant 2-tailed N	-.042 .780 46	.120 .427 46	.237 .113 46	.165 .272 46	1 46	.031 .840 46
Performance Correlation Significant 2-tailed N	.085 .573 46	.150 .320 46	.017 .911 46	-.247 .098 46	.031 .840 46	1 46

**correlation is significant at 0.01 level (2- tailed)

It is very well may be seen from the table 1, that every one of the extraneous factors have a positive relationship with the worker execution aside from compensation which has a negative connection (- 0.247). The administrators have great comprehension of the objectives of an association. The organization obviously conveys its objectives and goals to its chiefs and they get supportive input from their bosses. The boss of the chiefs are positive and strong in their manner, manager address their issues, complaints and concerns. They additionally keep the directors very much informed about what's happening in the association and about future preparation. Administrators are happy with their relational relationship. There are negative relationship exist among compensation and execution of chiefs, fairly they are not happy with their compensation bundle. Administrators are happy with their functioning condition as they have safe working condition. As indicated by the table 1, it is portrayed that this large number of outward factors have powerless or no relationship with director's presentation. In summary, extrinsic factors for supervisors are found to influence performance. Therefore, **hypothesis 1 is accepted for managers. Correlation between Intrinsic Variables and Performance of the Employees**

Table 2: Correlation between Intrinsic Variables and Performance of the Employees

	Achievement	Recognition	Work it self	Responsibility	Productivity
Achievement Pearson correlations significant 2 – tailed N	1 46	.142 .348 46	-.119 .432 46	- .175 .245 46	-.184 . 221 46
Recognition Pearson Correlations Significant 2- tailed N	0.04 .348 46	1 46	.277 .062 46	-.001 . -.113 46	.057 .156 46
Work Itself Pearson Correlations	-.119	.277	1	-.199	-.162

Significant 2- tailed N	.432 46	.062 46	 46	.185 46	.282 46
Responsibility Pearson Correlations Significant 2-tailed N	-.175 .245 46	-.237 .113 46	-.007 .867 504	0.1 46	-.105 .485 46
Productivity Pearson Correlation Significant 2-tailed N	-.184 .221 46	.213 .156 46	-.162 .282 46	-0.05 .485 46	1 46

*****correlation significant at 0.01 level (2-tailed)***

The table 2 above portrays the connection between the intrinsic factors and execution of the employees. It tends to be seen from the table 2 that every one of the inherent factors have a negative connection with the representative presentation. Along these lines we reasoned that there exists a correlation between the extraneous factors and the worker performance. **Hypothesis 2 is accepted for the managers**

Correlation between Extrinsic Variables and Performance of Non-Managers

Table 3: Correlation between extrinsic variables and performance of non-managers

	Technical Supervision	**Interpersonal Relations**	**Working conditions**	**Performance**
Technical supervision Pearson Correlation Significant 2-tailed N	1 504	.049 .274 504	.033 .465 504	.102* 0.21 504
Interpersonal Relations Pearson Correlation Significant 2-tailed N	.049 .274 504	1 504	.090* .044 504	-.009 .844 504
Working Condition Pearson Correlation Significant 2-tailed N	.033 .465 504	.090* .040 504	1 504	-.065 .142 504
Performance Pearson Correlation Significant 2-tailed N	- .102* .021 504	-.009 .844 504	-.065 .142 504	1 504

***** correlation is significant at 0,05 level (2-tailed)***

The table 3 above portrays the connection between the outward factors and execution of the representatives. It very well may be seen from the table that every one of the extraneous factors have a negative relationship with the representative presentation. Subsequently we inferred that there exists a relationship between the extrinsic factors and the worker performance.

Hypothesis 1 is accepted for non-managers Correlation between Intrinsic Variables and Performance of Non-Managers

Table 4: Correlation between intrinsic variables and performance of employees of non-managers

	Achievement	**Recognition**	**Work it self**	**Responsibility**	**Productivity**
Achievement					
Pearson	0.1	0.02	.044	.001	0.001
correlations					
significant		6.29	.325	.982	.980
2 – tailed	504	504	504	504	
N					504
Recognition					
Pearson	.022	0.01	.018	-.008	.088
Correlations					
Significant	.629		.685	.861	-0.48
2- tailed					
N	504	504	504	504	504
Work Itself					
Pearson	0.04	-0.018	0.1	-.001	.057
Correlations				.867	199
Significant	.325	.685			
2- tailed				504	504
N	504	504	504		
Responsibility					
Pearson	.001	-.008	-.007	0.1	-.063
Correlations					
Significant	.982	.861	.867		.160
2-tailed					
N	504	504	504	504	504
Productivity					
Pearson	-0.01	.088	.057	-0.63	.01
Correlation					
Significant	.980	.048	.199	.160	
2-tailed					
N	504	504	504	504	504

*****correlation is significant at 0.05 (2 tailed)***

The table 4 above determines the correlation between the intrinsic factors and performance of the employees. It can be observed from the table that achievement and responsibility factors have a negative correlation with the employee performance and recognition and work itself have a positive correlation with the performance. Thus we may infer that there exists no correlation between the intrinsic variables and the employee performance of the non-managers. **Hypothesis 2 is accepted for non-managers.**

Contribution of the Present Study

Manufacturing has emerged as one of the high growth sectors in India. The manufacturing industry of medical devices is expanding quickly. If employee wants to meet market demands and compete globally in the job market, they will need to focus on adapting to the changing workplace and adopt creative strategies to address today's modern industry challenges.

According to our information very few studies has been done on Impact of job satisfaction on employees performance in the manufacturing industry of the medical devices and there is need to do lot in it. Therefore, this study fills the gaps by analyzing the employees performance in respect to that manufacturing industry.

- The present study highlights the core correlation between extrinsic factors and intrinsic factors and employee performance in an organization but our study focuses on this relationship and their impacts earlier study did not focus.

The study will help future researches on performance of employees and job satisfaction.

IV. Conclusion

The findings from the above study depicts that the regularly tracking progress against performance goals and objectives also provides the opportunity to recognize and reward employees for performance and exceptional effort, contributing to their job satisfaction and productivity. Employees want to feel successful, to do well at their job and feel they are making a valuable contribution. It has been determined from this chapter that employees are delivered regular feedback for their work. Workers are all knows their short term goals that are assigned to them which clearly indicate the performance expected out of them at work. Employees are well aware that apart from their monetary benefits like salary, totally depends on their performance, employees are getting good learning opportunities, all these factors helps in supporting the performance of employees who are working in the organization and also positively impacts productivity, employees retention and employees loyalty. For the managers, acknowledgment was the main component that roused them to work all the more effectively and if there should be an occurrence of non - troughs, advancement prompts ascend in status and pay raise.

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ROLE OF FIRM CREATED CONTENT AND USER GENERATED CONTENT IN GENERATING PURCHASE INTENTIONS: A STUDY OF SELECT E-TAILERS

Rachna Gupta*Rabinder SinghIesha Khajuria***Rajani Kumari Sarangal******

Purpose: *The present study aims to examine the influence of brand-related social media communications on consumers' purchase intentions.*

Methodology: *The final sample of 283 respondents for the study consisted of students and faculty from the University of Jammu, who were active social media user sandal, so had at least once shopped from one of the e-retailers (Amazon, Flipkart and Myntra) understudy. Convenience sampling technique was applied and a structured questionnaire was employed to collect the responses. The data gathered was analyzed with the help of SPSS and AMOS software*

Findings: *The investigation of the impact of brand-related social media communications on purchase intentions indicates that both firm-created and user-generated social media communication have a positively significant effect on the consumers' purchase intentions.*

Originality/Value: *The current study offers two significant contributions to the research scholars and brand managers. Firstly, the study provides conceptual insights into how different types of brand-related social media communications (i.e., firm-created) foster consumers' purchase intentions. Secondly, how user-generated content fosters consumers' purchase intentions.*

Keywords: *Social Media Communications, Purchase Intentions, Firm-Created Content, User-Generated Content, e-Tailers*
JEL Classification Code: *M300, M310, M390*

Consumer purchase behavior (intentions and decisions) has been examined to a large extent using frameworks from traditional (or offline) modes of purchasing (Van der Heijden et al., 2003). Lately, the consumers' buying behavior has also been researched in regards to online websites (or e-retailers), but very few studies have been undertaken to study the influence on buying decisions due to social networking sites. Online purchasing has become the latest trend in shopping (Vander Heijden et al., 2003). When making purchases online, among many factors like user-friendly website interface, large varieties to choose from, etc., the trust factor emerges as the most important aspect that makes people buy from a virtual platform (Van der Heijden et al.,2003; Weisberg et al., 2011). Not just in case of online shopping, but even in the context of offline shopping, the trust factor created by the physical environment, the sales force and word-of-mouth by the previous customers, tends to reduce the uncertainties in making purchase decisions. Thus, trust plays a significant role in consumer buying behavior. When it comes to shopping online, where no physical shops are available, no sales people are there for face-to-face interactions and no customers can directly talk to each other regarding their experiences, developing a sense of trust among the customers becomes more challenging. So the companies and brands can make use either of their official websites or can well utilize the social media channels in order to connect with their audiences, where people in enormous numbers can be easily found connecting with each other, while sharing their all sorts of life and even day-to-day experiences, including their travel, achievements, relationships, and even shopping. Personalized offerings, better graphic interfaces, wide payment options, encouraging people to share their experiences on their social media accounts, are some of the potential strategies the e-retailers can opt for. Since people interacting on social media platforms with their peer groups, friends, family, etc. can highly contribute to electronic word-of-mouth, it is highly indicative of the fact that they can serve as great influencers of others' buying decisions. In this context, the brand-related social media communications have been classified into the communications that take place from the firm's end (i.e., Firm-Created Content, FCC) and the one carried out by the consumers or the social media users (i.e., User-Generated Content, UGC). To be more precise, it is analyzed that how seriously people take such communications on social media as only the extent to which the content is considered significant will ultimately affect the purchase intentions. Hence, this study aims to investigate the influence of social media users' or consumers' attitude towards FCC and UGC on their purchase intentions.

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I. Review of Literature

The latest interactive technologies have brought about significant changes in the lifestyle and socialization patterns as well as corporate marketing strategies. Lately, the organizations have clearly understood the importance of the Internet and are extensively considering its services, like online communities, social networks, etc., to their advantage (Shankar & Batra, 2009; Winer, 2009). The coming up of web 2.0 technologies has exposed the Internet users to vast online content, especially through social media (Chen et al., 2012). Social media platforms offer both companies and customers new ways of connecting and engaging with each other While the customers connect with other customers to give as well as find the reviews or opinions about different products/services, the firms in addition to floating information about their offerings, wish to engage with prospective as well as existing customers to know more about their audience, and influence their perceptions about their brands/ products/ services (Brodieetal.,2013).As compared to the traditional sources of communication like magazines, newspapers, radio, television, etc. ,social media is characterized by wider demographic appeal coupled with viral dissemination of information in the smallest time span (Kaplan & Haenlein, 2010; Keller, 2009). These features have helped social media gain massive popularity, making internet users shift away from the traditional sources (Mangold & Faulds, 2009).

Social media platforms offer vast opportunities to the internet users for creating and sharing content (Kaplan & Haenlein, 2012). In addition to getting connected and socializing with other people around the globe, the internet users engage in writing about their experiences about the various products/ services/ brands, thereby, making the firms no longer the sole source of brand communication on social media (Berthonetal., 2008). Various studies in the past have proven that consumers find social media to be more trustworthy source of information in comparison with the traditional methods of marketing communications employed by the firms (Hennig-Thurau et al., 2004; Karakaya & Barnes, 2010; Kietzmann et al., 2011). Thus, the marketing and brand managers may leverage the services of social media for enhancing their brand communication (Smith et al., 2012).

In order to investigate the influence of brand-related social media communications, it is first important to see the various types of such communications that take place on these platforms. Godes and Mayzlin (2009) broadly categorized such communications into two main types, viz., firm-created and user-generated, on the basis of what the firms are saying about their offerings and what customers or social media users are saying about these offerings on these channels. While firm-created content (FCC) on social media is decided and managed and controlled by the firm, user-generated content(UGC)is absolutely self-sustained and unfettered by the firms (Bergh et al., 2011). Previous works (Balasubramanian & Mahajan, 2001; Chu & Kim, 201; Mukherjee & Banerjee, 2017) by the academic researchers in the context of firm-created social media communications emphasize mainly on the studies related to word-of-mouth (WOM) and electronic word-of-mouth (eWOM). A**s** mentioned by Godes and Mayzlin (2009), firm-created word-of-mouth (WOM) may be thought of as a blend of traditional advertising and consumer WOM, identified as being firm initiated but consumer implemented. The literature pertaining to word-of-mouth communication indicates a strong consensus on the fact that communications taking place between various customers on electronic platforms serve as a quite effective source of information dissemination (Dellarocas et al., 2007). Social media channels, in particular, provide a highly economical alternative way for the firms to acquire and examine consumer-to-consumer communication (Godes & Mayzlin, 2004). According to Wikipedia(n.d.), user-generated content (UGC) or user-created content (UCC) may be referred to as, "any form of content, such as images, videos, text and audio, that has been posted by the users on online platforms such as social media and wikis". The various aspects of UGC as described by Wikipedia(n.d.) are: "i) the content contribution is by the users of a product rather than the firm that sells the product, ii) these contributions are somewhat creative in nature and the user adds something new to what has been done before, and iii) these ideas and contributions are posted online and are generally accessible to others". Earlier studies on user-generated content (UGC) indicate that customers on social media engage in the process of content creation for a number of reasons including self-promotion, enjoyment, and wishing to influence public perceptions (Berthon et al., 2008). The social networking tools, based on Web2.0 technologies, have revolutionized interpersonal interaction by smoothening the ways of communication among the users to a large extent (Al-Kandari & Hasanen, 2012; Boulianne, 2015).

Consumers today are increasingly socializing through peer communication on social media platforms and this phenomenon has become quite popular in marketing communications (Wang et al., 2012). Social networking tools have revolutionized interpersonal interaction by greatly facilitating communication between users (Al-Kandari & Hasanen, 2012; Boulianne, 2015). Brand-related peer communication can be referred to as the interactions that the consumers have on social media in connection with products and services (Bramoullé et al., 2009; Sarapin & Morris, 2015; Wang et al., 2012). The effect of peer groups on consumer behavior especially in case of social media channels, social networks to be specific, has been well recorded (Crawshaw, 2012; Hofstra et al., 2016; Meacham, 2016; Momoc, 2013). In the current study, emphasis is placed on brand-related FCC and UGC, and its impact on brand purchase intentions.

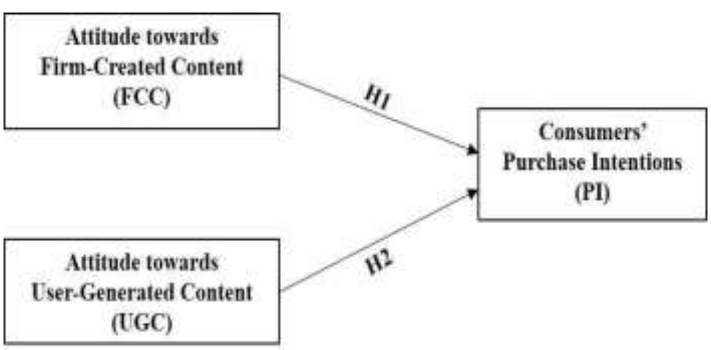
Conceptual Framework and Research Hypotheses

The objective of the present study is to fill the voids in the exploration of the techniques in which firm-created and user-generated brand-related communication on social media (firm-created as well as the user-generated) influence the consumers' purchase intentions. Previous findings regarding the behavioral effectiveness of firm-created content on social media and/or online advertising are not consistent. For instance, a study by Schivinski and Dąbrowski (2013) concluded with the Firm-Created Content (FCC) to have no significant impact on purchase intentions. Also, Soewandi (2015) in her work found a negative impact of firm-created content on purchase intentions. However, majority of the works evince a significant positive relationship between the e-advertising and the purchase (or behavioral) intentions (Kosarizadeh & Hamdi, 2015; Manchanda et al., 2006; Martin et al., 2003). In addition, strong positive correlations have been established between advertising stimuli and the consumers' purchase intentions (Goodrich, 2011; Groenhaug et al., 1991 as cited by Schivinski & Dąbrowski, 2013; Haley & Baldinger, 2000). It has, therefore, been hypothesized that:

H1: Attitude towards brand-related Firm-Created Content (FCC) on social media has a significant impact on consumers' Purchase Intentions(PI).

Again, in case of User-Generated Content on social media also, there are mixed conclusions regarding its impact on the purchase intentions. Some studies have found UGC to have negative or no significant influence on purchase intentions (Schivinski & Dąbrowski, 2013; Soewandi, 2015). However, many studies suggest a positive relationship (Kosarizadeh & Hamdi, 2015; Poturak&Softic,2019; jha, 2019).

Figure1: Conceptual Framework



According to LiandBernoff (2011) as cited by Schivinski and Dąbrowski (2013), customers find online opinions to be as trustworthy as they perceive about the brand websites or other newspaper articles. Many researchers have also pointed out that user-generated content serves as an important source of information about various brands/ products/ service qualities for the customers (Chevalier & Mayzlin, 2006; Riegner,2007). Along these lines, UGC can be said to have an influence on the decision-making process and consequently, purchase intentions (Chatterjee, 2001). So, to some extent, User-Generated Content can be considered as a good reference for consumers while making a buying decision. Thus, it is assumed that:

H2: Attitude towards brand-related User-Generated Content (UGC) on social media has a significant impact on consumers' Purchase Intentions(PI).

I. Research Design and Methods

Sampling and Sample size

The required data was collected using a self-structured questionnaire, using a convenience sampling technique. The participants were among the students and faculty of University of Jammu falling in the age group of 18-35 years. The data among these people was collected only from those who are active social media users and have shopped from at least one of the e-retailers (Amazon, Flipkart and/or Myntra). A total of 310 people (students of University of Jammu) initially responded to the survey. Out of these 310, only 283 could make it to the final analysis, rest being rejected either due to incomplete or unengaged responses.

Demographic Profile of Respondents

Out of these 283 respondents, there were 139 males (49.12%) and 144 females (50.88%) and age within the sample was nearly 24years (S.D.=0.334). Further, all the respondents had facebook account and were active Facebook users, while around 88 % had Instagram account also. While Instagram was found to be a preferred channel for sharing pics and following celebrities among the youth, Facebook was found to be more commonly used for almost all sorts of activities making friends, connecting with peers, family and other users on the help platforms, following celebrities, brands, etc. So, in a way, in the context of brand-related communications, the results can be attributed to the influence of Facebook usage more than Instagram usage.

Instrument Measurement

The items for the constructs attitude towards firm-created content (FCC,8items) and attitude towards user- generated content (UGC,13items), have been adapted from the works of various researchers, namely, Andaç et al. (2016), Alsamydaiand Al Khasawneh (2013), Bruhn et al. (2012), Gefen et al. (2003), Magi (2003),Mikalef et al. (2013), Richard and Guppy (2014), Schivinski and Dąbrowski (2013), Shen (2012), Tsiros et al. (2004). The items for the construct consumers' purchase intentions (PI, 7 items) have been adapted from the works of Buil et al. (2013), Choudhury and Kakati (2013), Mikalef et al. (2013), Schivinski and Dąbrowski (2013), Schivinski et al. (2015). This study uses a5-point Likert scale with anchors 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4=agree, and 5= strongly agree. The Cronbach alpha value for the constructs FCC, UGC and PI was found to be 0.905, 0.793, and 0.905, respectively, indicating all the constructs to be reliable enough.

II. Result and Discussion

Purification of Scale- Exploratory factor Analysis (EFA)

EFA in that it helps in reducing the number of variables in the dataset while keeping the maximum possible original information (Chauhan, 2016), the factor analysis has been carried out initially for the constructs framed for the study (Jenssen &Randøy, 2002), viz., Attitude towards Firm-Created Content (FCC), Attitude towards User-Generated Content (UGC), and Purchase Intentions (PI) . Thus, after running the EFA 8 items from FCC, 9 items from UGC and 4 items from PI are finally retained for further analysis. Table 1and 2 provides a summary of the SPSS output, number of items finally retained for the study and the overall descriptive statistics (see Table 1 and 2)

Table 1: SPSS Output from running EFA

Construct	KMO	Bartlett's Test of Sphericity			Eigen Value	% of Variance
		Approx. Chi-Square	Degrees of Freedom (df)	Sig. (P-value)		
FCC	0.937	8296.671	28	0.000	5.226	65.328
UGC	0.955	10606.140	36	0.000	6.066	67.398
PI	0.824	4844.269	6	0.000	3.206	80.153

Table 2: Summary of Exploratory Factor Analysis and Descriptive Statistics.

Construct	Item Codes	Statements	FLs	Mean	SD	FM	A
Factor 1 Firm Created Content	FCC2	I find e-tailer ads/posts on social networking sites (SNSs) to be very helpful in making buying decisions online.	.880	4.08	.972	4.04	0.922
	FCC4	I will continue to browse through e-tailer ads/posts on social media in future.	.846	4.17	.939		
	FCC5	I trust the information conveyed through ads/posts by the e-tailers on SNSs.	.821	4.06	1.077		
	FCC3	I am satisfied with the e-tailer ads/posts on social networking sites.	.811	3.94	.863		
	FCC1	I find e-tailer ads/posts on social networking sites (SNSs) to be very interesting.	.795	4.11	1.006		
	FCC8	I like reading/going through e-tailer ads/posts on social networking sites.	.774	3.78	.967		
	FCC6	I like the idea of using e-tailer ads/posts on social media as reference for shopping purpose.	.771	4.08	1.033		
	FCC7	I usually avoid e-tailer ads/posts while accessing my social media account.	.761	4.11	1.083		
Factor 2 User Generated Content	UGC7	I like reading e-tailer related user-generated content on social media.	.875	4.10	1.024	4.08	0.939
	UGC8	I usually click on the e-tailer related posts that show up on my homepage from my friends liking them.	.869	4.11	1.053		
	UGC6	I will continue to browse through user-generated content about e-tailer brands on social networking sites in future.	.862	4.13	1.019		

	UGC2	I feel that user comments related to e-tailer ads/posts on social media present a true picture of the advertised e-tailer brands.	.835	4.07	1.089		
	UGC1	I find the experiences shared by others on social media about various e-tailer brands to be very helpful in knowing better about them.	.821	4.08	1.060		
	UGC4	I feel acquiring information about e-tailers via user comments and posts on social networking sites to reduce the probability of getting poor-quality products and services online.	.789	4.06	1.079		
	UGC9	I pay attention to the review comments posted by others on social networking sites about e-tailers.	.785	4.08	1.043		
	UGC5	I am satisfied with the content generated on social networking sites by other users about various e-tailer brands.	.781	4.08	1.040		
	UGC10	I pay attention to the various e-tailer ads/posts shared by others on social networking sites.	.762	4.05	1.028		
Factor 3 Purchase Intentions	PI3	Some of my recent purchases from this e-tailer were based on the information that I found on my social media account.	.910	3.78	1.290	3.80	0.917
	PI4	After some time of thought, I buy one or more products from this e-tailer brand based on the feedbacks/reviews seen on social media sites.	.909	3.75	1.267		
	PI1	Content on social media regarding this e-tailer brand induces me to buy from it.	.900	3.85	1.145		
	PI2	I intend to buy from this e-tailer brand as the information on social media convinces me to do so.	.861	3.84	1.112		

Assessment of Constructs- Confirmatory Factor Analysis (CFA)

Prior to moving to the data analysis, all the constructs developed have been tested initially using Confirmatory Factor Analysis (CFA) for uni-dimensionality, reliability and validity. Goodness of fit indices have been observed for all the constructs and modification indices for correlating the error-terms have been used, wherever necessary, to improve the model fitness (Gerbing & Anderson, 1984; Hair et al., 2015). As per the recommendations extended by the existing literature, only the within-factor error terms have been correlated (Anderson & Gerbing, 1988; Gerbing & Anderson, 1984; Hair et al., 2015; Hermida, 2015; Kaushik, 2017b). Further modification indices have been used for improving the model to some extent, wherever required (Hair et al., 2015). The detailed confirmatory factor analysis (CFA) for all the constructs is presented as follows.

Firm-Created Content (FCC)

The construct after reliability check consists of eight items as mentioned before. Confirmatory Factor Analysis (CFA) has been applied to test the construct. The CFA model for the construct is presented in Figure 2.

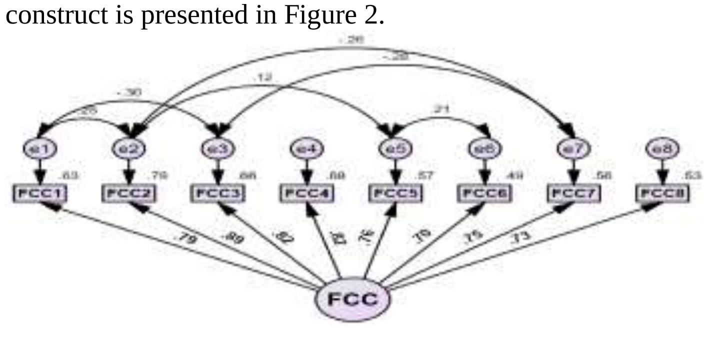


Figure2: CFA Model showing Individual Construct (Firm-Created Content) and Measured Variables

The results indicate that the regression weights (construct loadings) of each variable in the construct are high (> 0.6) and also significant. Hence, the convergent validity is ensured which indicated that the construct significantly explains the variables. The standardized regression weights indicate comparative influence of the construct on its variables. The high value of the standardized regression weights indicates a higher reflection of the construct in the form of the variable. The squared multiple correlations indicate the percentage of variance of the measured variable that can be explained with the help of the variations in the construct. For instance, the variable/item FCC2 (=0.89) with the highest weight is the most influencing criteria for the construct FCC, followed by FCC3 and FCC4 (=0.82) and others. The squared multiple correlation of the measured variable FCC2 indicates that 78.4% of the variance of the variable is explained by the construct. All the values are quite above 0.30 (or 30%) which are considered very good in case of social sciences research.

The Model Fit Summary for FCC are CMIN/DF = 2.541, GFI = 0.994, AGFI = 0.986, CFI = 0.997, NFI = 0.996, RMR = 0.010 and RMSEA=0.031 which indicates that the measurement model is statistically fit.

User-Generated Content (UGC)

The construct consists of nine items. The CFA model for the construct is presented in Figure 3.

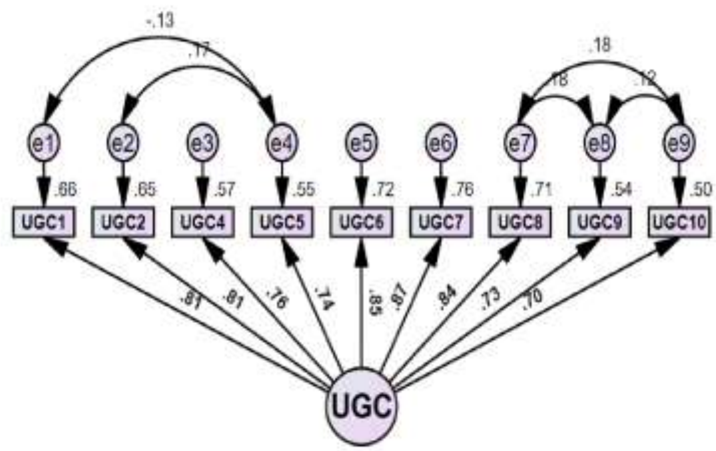


Figure 3: CFA Model showing Individual Construct (User-Generated Content) and Measured Variables

The results indicate that the regression weights (construct loadings) of each variable in the construct are high (> 0.6) and also significant. Hence, the convergent validity is ensured which indicated that the construct significantly explains the variables.

The fit of the model is shown in Table 3 below, which indicates that the measurement model is statistically fit. CMIN/DF=4.561, GFI =0.986, AGFI=0.971, CFI =0.993, NFI =0.991, RMR = 0.015 and RMSEA = 0.047.

Purchase Intentions (PI)

The construct consists of 4 items. The CFA model for the construct is presented in Figure 4.

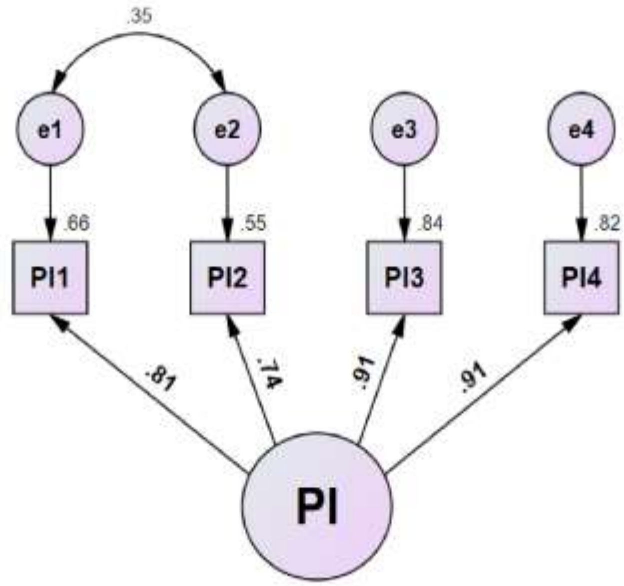


Figure 4: CFA Model showing Individual Construct (Purchase Intentions) and Measured Variables

The model fit values i.e. CMIN/DF =5.127, GFI=0.998, AGFI =0.984, CFI =0.999, NFI =0.999, RMR = 0.006 and RMSEA = 0.050, indicates the measurement model to be statistically fit.

Reliability and Validity Analysis

In the present study, as can be seen in the table 3, all the values of CR are above 0.7 and those of AVE are equal to or above 0.5, as desired. Also, all the constructs have CR > AVE. Hence, convergent validity is established.

Discriminant validity can be analyzed with the help of the Average Variance Extracted (AVE), Average Shared Variance (ASV) and Maximum Shared Variance (MSV) measures of a construct in a multi-item scale or measurement model. As can be seen in the table 4, all the values of AVE are 0.5 or above, as expected. Also, all the constructs have AVE > MSV and AVE > ASV. Hence, Discriminant Validity for the present study is established.

Table 3: Convergent Validity

Constructs	Composite Reliability (CR > 0.7)	Average Variance Extracted (AVE > 0.5)	Convergent Validity (CR > AVE)
FCC	0.92	0.60	Confirmed
UGC	0.94	0.64	Confirmed
PI	0.92	0.73	Confirmed

Table 4: Discriminant Validity

Construct	Average Variance Extracted (AVE)	Maximum Shared Variance (MSV)	Average Shared Variance (ASV)	Discriminant Validity AVE > MSV AVE > ASV
FCC	0.60	0.22	0.12	Confirmed
UGC	0.64	0.21	0.11	Confirmed
PI	0.73	0.21	0.18	Confirmed

Hypothesis Testing Results – Structural Equation Modeling (SEM)

The results indicate that the standardized regression coefficient (beta value) of the cause and effect relationship between FCC and PI is 0.325 with p-value of 0.002 and between UGC and PI is 0.393 with p-value of 0.001. This indicates a significant impact of FCC on PI and UGC on PI (p-value < 0.05 in both cases) (see Figure 5).

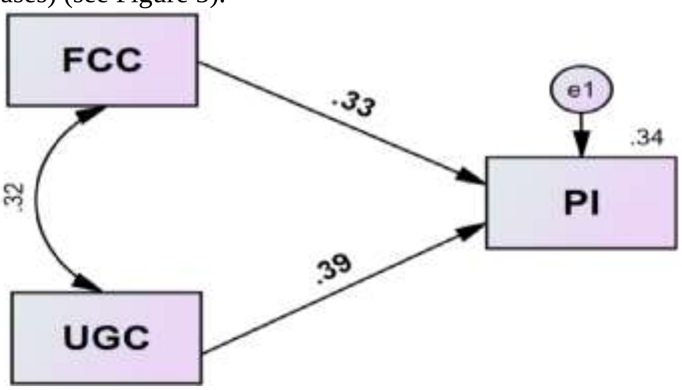


Figure 5: Cause and Effect Relationship between FCC, UGC and PI

The Table 5 shows the estimated standardized structural path estimates (or regression weights) i.e. FCC ($\beta = 0.325$, $t = 8.007$, $p < 0.05$) on PI and UGC ($\beta = 0.393$, $t = 10.383$, $p < 0.05$) on PI, along with the acceptance or rejection of the corresponding hypotheses based on the significance level (p-value).

Here again, the p-value of Chi-Square is found to be significant (< 0.05), as in the measurement model. However, as can be seen in the table 6, all the other measures lie within an acceptable range which indicates an overall good model fit.

Table 5: Results of Path Analysis Hypotheses

Hypothesis	Structural Relationship	Standardised Regression Weights (β)	Critical Ratio (C.R.)	Result
H1	FCC PI	.325	8.007	Accepted*
H2	UGC PI	.393	10.383	Accepted*

*Significant at p < 0.05

Table 6: Structural Model Fit Summary

Fitness Indices in SEM	Model Values
CMIN/DF	4.226
P-value (significance of Chi-Square)	0.000
GFI	0.902
AGFI	0.890
CFI	0.956
NFI	0.943
RMR	0.093
RMSEA	0.045

Discussion

As explained earlier, the Social Media Communications is being studied as two constructs Firm-Created Content (FCC) and User-Generated Content (UGC). To check the impact of FCC and UGC on PI AMOS was run as it allowed the simultaneous analysis of the impact of two independent, viz., Attitude towards Firm-Created Content (FCC) and Attitude towards User-Generated Content(UGC)on the dependent variable, viz., consumers' Purchase Intentions(PI). Carrying out this form of analysis allowed a better picture of how the two variables were influencing and interacting with the dependent variable. The SEM model was found significant in accounting for the variance in consumers' Purchase Intentions (PI) with aβ =.249. Within the SEM model, both of the predictor variables, FCC (Beta=.325, p<.05) and UGC (Beta=.393, p<.05) surfaced as significant predictors. Thus, both the hypotheses H1 as well as H2 were supported and both the relationships were found to be positively significant.

III. Conclusion

The current study offers two significant contributions to the research scholars and managers. Firstly, the study provides conceptual insights into how different types of brand-related social media communications (i.e. firm-created) foster consumers' purchase intentions. Secondly, how user-generated content foster consumers' purchase intentions. The investigation of the impact of brand-related social media communications on purchase intentions indicates that both firm-created and user-generated social media communication have a positive significant effect on the consumers' purchase intentions. However, the impact of UGC is more as compared to FCC. This is in line with the previous studies and indicates that people trust and rely on the reviews and feedbacks of family, friends and other consumers for making buying decisions, more than what the firms promote about their offerings (Christodoulides, 2012; Schivinski & Dąbrowski, 2013; Roy et al.,2017). Though attitude towards FCC and UGC on social media were found to have a significant impact on purchase intentions, the results were for the whole sample taken together.

No doubt the values indicate a positive impact of both types of brand-related social media communications on consumers' purchase intentions, the low values indicate that still today the marketing managers have not been able to leverage the strength of social media to influence the buying behavior. And perhaps, the success of these online retailers can be contributed to other factors also like, television advertisements, company's official websites or mobile applications, etc. Nevertheless, social media channels do help in increasing brand awareness, trust and indirectly lead to purchase decisions. Thus, the brand managers need to put in extensive efforts into attracting people more and more on their social media pages and engaging them with their customized offerings and also influencing the electronic word-of-mouth that propagates so easily on these platforms (Muntinga et al., 2011; Schivinski & Dąbrowski, 2013). In addition to these, personalized and emotional connection needs to be made through special discounts, loyalty programs, promotional updates through text/email messages, etc (Shankar et al., , 2010).

Research Limitations and Directions for Future Research

There are certain limitations of the present study that can offer recommendations for future research. It is suggested that, in addition to the two social networking sites considered, other such sites and other types of social media platforms also be examined in order to attain a comprehensive understanding of brand-related social media communications. This type of research would offer marketing/brand managers and the academic researchers a broader understanding of the nitty-gritty of the social media communications. Further, only two e-commerce brands (e-retailers) have been taken into consideration. So, there are chances that different brands perform differently (message generation and exposure) on social media channels, and consequently have different influence on consumer perceptions, which ultimately affect the purchase intentions. Hence, it is advised to include other leading –retailers in future studies. Also, it is suggested that a wider span of industries, in addition to e-retailers, be analyzed in future studies. Lastly, the sample used in this research comes from the students and faculty members from a single college in the Jammu region, making it unreasonable to absolutely generalize the results to other places, though to some extent they can represent the population falling into this age-group in the city where the survey has been conducted, i.e., Jammu. Hence, future research in this domain should be administered in different colleges and/or cities to draw more valid and generalized conclusions.

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SCOPE OF E-CHARGING STATIONS WITH ONLINE PARKING ALLOTMENT MODEL FOR SUSTAINABLE DEVELOPMENT

Abhishek Janvier Frederick*

Purpose*: The present study is focused to assess the scope for a model which encompasses an online parking allotment and charging station for Electric Vehicles (EVs)in the major cities of Uttar Pradesh*

Approach*: The model of the study comprises of variables such as legal parking lot, vacant land, distance of organized market from linear and nucleated settlement of proximate commuters.*

Finding*: The study revealed that if commuters can book a parking area prior to their visit to market, it results into less traffic, reduced time for shopping, less usage of fuel also if parking lot provided recharging facilities of EVs that will result into sustainable development.*

Originality/Value*: The study will strengthen efforts of creating a sustainable future for coming generations with reduced carbon emissions, more time for shopping than commuting on over trafficked roads, pre-booked parking lot will attract customers with having high probability of purchasing.*

Keywords: *Electric Vehicles, Parking Problem, SDGs*
JEL Classification: *O3, R4,*

Uttar Pradesh is ranked no.4 in India area wise, with 240,928 km^2 with average density of 829 per sq. km as per Census 2011 The major cities of Uttar Pradesh has witnessed an increase in the number of population, growth in automobiles, growth in road network in form of highways and metal roads. These factors has caused burden on the cities and ignited issues like parking problem, rise in time spent on roads in spite of short distance from commuters location to destination due to increased numbers of automobiles, which leads to rise in consumption of fuel and also rise in the cost of maintenance of both automobiles and road network. In the wake of rising temperature of our planet the eco-sensitive citizens and government should focus on how to slow down the rate of global warming.

Conceptual Framework of EVs charging stations & Online Parking Allotment system- Joining Hands with Clean Environment for Sustainable Development

The problem of road traffic has increased the air pollution and increased the consumption of fuel which has resulted into increase in traveling time. The government policy of providing better roads to citizens gets negatively affected when daily commuters spent more time on roads than required in normal circumstances. The study focused on the scope of such infrastructure which enables commuters who intends to visit place of organised markets such as malls shopping complex and traditional markets in cities.

Therefore, Figure 1 depicts a conceptual model where an individual can book a parking place for its vehicle prior to the visit and parking place which offers a facility of charging EVs, which will result into saving time in search of parking, and a guarantee for the EVs owners to top up the charge. As in the recent summit of UN the goal of reducing usage of Fossil Fuel has been set to 2030 and increase usage of Renewable sources of fuel has also adopted. The Model will satisfy the Sustainable Development Goals (SDGs), affordable and clean energy goal 7, sustainable cities and communities' goal 11 (*Energy - United Nations Sustainable Development*, n.d.).

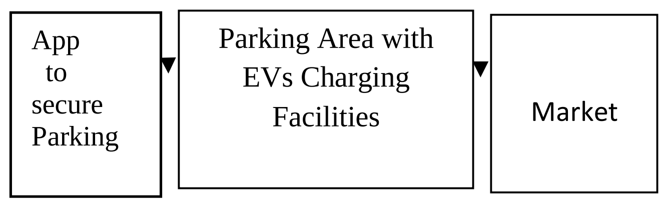

Figure 1.1 Conceptual Model for Parking Allotment App & EVs charging station

Figure 1 gives a brief overview of our model, where a mobile based app will be developed to book parking slots, with date and time, the citizens can book parking slots in advance prior to their visit to the market place by simply filling their vehicle number, the app will provide them a virtual booking ticket which can be used for physical verification, payment for these parking slots will also be collected electronically. The parking areas will be having a secure area for EVs and equipped with recharging facilities on payment basis as per government tariff rates for commercial purposes. The availability of recharging station will motivate citizens to buy EVs which will help to achieve goals of SDG no.7and 11 by improvement of air quality, reduction of consumption of fossil fuels, less burden on roads as it is assumed that only those families will go to market who will have prior parking allotments at a particular day and time.

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I. Review of Literature

The idea of developing and implementing block chain based energy trading platform (Silva et al., 2019) in universities which offers parking as well as charging, electric vehicle charge and discharge in real time monitoring status by (Ge et al., 2020),the problems in formulation, complexity of setting up electric vehicle charging stations was studied by (Lam et al., 2014),usage of electric vehicles in logistics and transportation (Juan et al., 2016) environmental, strategic and operation challenges were focused,(Yamagata & Seya, 2013) conducted a study on future smart city for reducing CO2,(Nguyen et al., 2015) focused on use of EV batteries for renewable energy production and assessing customers requirements,(Shuai et al., 2016) insight on the option of EVs providing temporarily energy to the power grid,(Marletto, 2014) introduced the electri-city,auto-city and eco-city with connecting smart grid model on the basis of multi –level policy for urban and transport policy.(Xiao et al., 2021) assessed the scope of online parking system which saves time in searching for vacant parking slot, through a collaborative reservation system with higher feasibility,(Alkhuraiji, 2020)proposed a prototype application for online parking system at university where employees and students both can reserve their slot enabled by modern sensor and mobile communication system,(Coulibaly et al., 2021) proposed an architecture for parking system where management of parking was based upon internal and external data, the help of multi-platform application for reservation of parking at Casablanca,(Latinopoulos et al., 2017) studied the behavioural response towards dynamic pricing for parking and charging of EVs from electric vehicle drivers.(Sharma et al., 2021) explored the scope of hydrogen for vehicles while assessing the environmental, technical and storage feasibility,

II. Research Design and Methods

On the basis of in depth literature review, the researchers has identified that there are previous studies which focuses on online parking system, mobile based applications which helps in booking parking slots, nonconventional fuels for transportation, studies are there for developing cities of future which will be outside the geographical boundaries of India but there has been no study which is focused on online parking allotment combined with the E-charging facilities therefore, in the present study researchers has identified the research gap to study the scope of online parking allotment model with facility of EVs charging for sustainable development and transforming the present cities into smart cities in India.

III. Result and Discussion

Uttar Pradesh is the cynosure of Indian economy with largest consumer base which contributes 8% to the country's GDP. The state is a part of golden quadrilateral and has many state expressways, which enables commuters to travel intercity for various purposes such as employment, tourism, shopping etc. The state has been ranked 2ndin number of total non-transport vehicles registered in India in with 31.24 million vehicles and 11.57% share of top 5 states which holds 49% of about more than 49% of total registered transport vehicles in the country as on 31stMarch, 2019 (Ministry of Road Transport & Highways Transport Research Wing, 2021) it implies that there is an increasing pressure on commuters to search for a parking place whenever they are travelling in the state, thus it leads to more expenditure on fuel and wastage of time.

Table 1.1 Uttar Pradesh Cities Ambient Air Quality November 2021

Serial No.	Cities	Residential area average	Commercial Area	Industrial Area	Mean
1	Lucknow	167.5	186	248	200.5
2	Kanpur	205.8	332	244	260.6
3	Varanasi	137.3	198	141	158.7667

Source: *(Uttar Pradesh Pollution Control Board, 2021)*

Table 1.1 reveals three cities of Uttar Pradesh whose average air quality index is measured at three areas such as residential, business activity and industrial area, the score can be read with the index such as 0-50 shows that AQI is Good with minimal impact ,51-100 shows Satisfactory with minor breathing discomfort to sensitive people, a score between 101-200 can be marked as Moderate, i.e, breathing uneasiness to the people with cardiac diseases, children and older adults, a score ranging between 201-300 will be awarded as Poor because it will result into breathing uneasiness to people on prolonged exposure (Uttar Pradesh Pollution Control Board, 2021) . Cities which will come in the threshold of 301-400 of AQI index will be designated as very poor score and dwellers may face respiratory disorder due to prolonged exposure. Issues related to upper respiratory tract may be seen in the even in the healthy dwellers of those cities where AQI is >400 and such cities will be comes under Severe score. On the basis of the above parameter it is clear that commercial areas of Lucknow and Varanasi both fall in the range of 101-200 and can be awarded as Moderate, while Kanpur's residential and industrial both area falls into the category of Poor with 205.8 and 244 respectively and surprisingly commercial area's AQI is very poor for the people residing there. The following table 1.2 given below also indicates the high level of consumption of petroleum which has led to the aggravation of the challenges.

Table 1.2 All Petroleum Products Annual Industry Sales- State wise in Indian North Region Period April 2018-March 2021

REGION – NORTH (`000 Metric Tonnes)					
STATE/UT	**2018-19**	**2019-20**	**2020-21**	**Mean**	**Rank**
Chandigarh	435.2	435.9	312.0	394.36	9
Delhi	4890.5	4621.4	2911.3	4141.05	5
Haryana	10522.7	10222.8	9853.0	10199.48	3
Himachal Pradesh	1558.8	1693.5	1527.8	1593.39	7
Jammu & Kashmir	1502.7	1371.7	1300.8	1391.75	8
Ladakh	--	128.3	140.6	134.47	10
Punjab	7063.3	7113.9	5964.0	6713.74	4
Rajasthan	11402.7	10920.6	9179.4	10500.93	2
Uttar Pradesh	18180.4	18407.2	18090.2	18225.95	1
Uttarakhand	1725.5	1655.7	1533.6	1638.27	6

Source: *(Petroleum Planning & Analysis Cell, 2021)*

Table 1.2 shows that in Uttar Pradesh there has been a highest increase in demand of Petroleum products as per the report of (Petroleum Planning & Analysis Cell, 2021) among other states of Northern region in India and it has been ranked 1 followed by Rajasthan and Haryana. The table depicts the results of Covid period also due to which the growth rate was -1.8% in 2020-21 as compared to 1.2% in 2019-20.

The results are evident that due to high consumption of petroleum products in Uttar Pradesh over the period of 2018-2021 the air quality was also getting affected which has resulted into the high score in AQI index. This had an adverse effect on the attainment of SDG no.7and 11 with a negative band wagon effect on goal of improving air quality, reduction of consumption of fossil fuels, fewer burdens on roads and building sustainable cities in our county.

Road ahead: Inclusion of Electric vehicles and Intelligent parking system

Electric Vehicles Scope in Uttar Pradesh

The number of registrations for authorized drivers in a state can simply indicate demand for a motor vehicle. In 2018-19, the state's Transportation Department granted approximately 1.3 million approved driving licenses for, making it one of the country's largest consumer bases (Transport Department, 2020).

The operating cost of an EV could be as low as Rs.1 per km which provides economies of running it in comparison of a vehicle running on conventional fuel which could be Rs.5.5 per km. Pertaining to the transition process to enhance EVs mobility Indian government has been supporting the state, and it has been the 3rd largest beneficiary under the FAME scheme and has the highest number of EVs amounting to 1.39 lakhs in total (Press Trust of India, 2021) and as of now the total number of EVs sold in 2021 were 28,985.

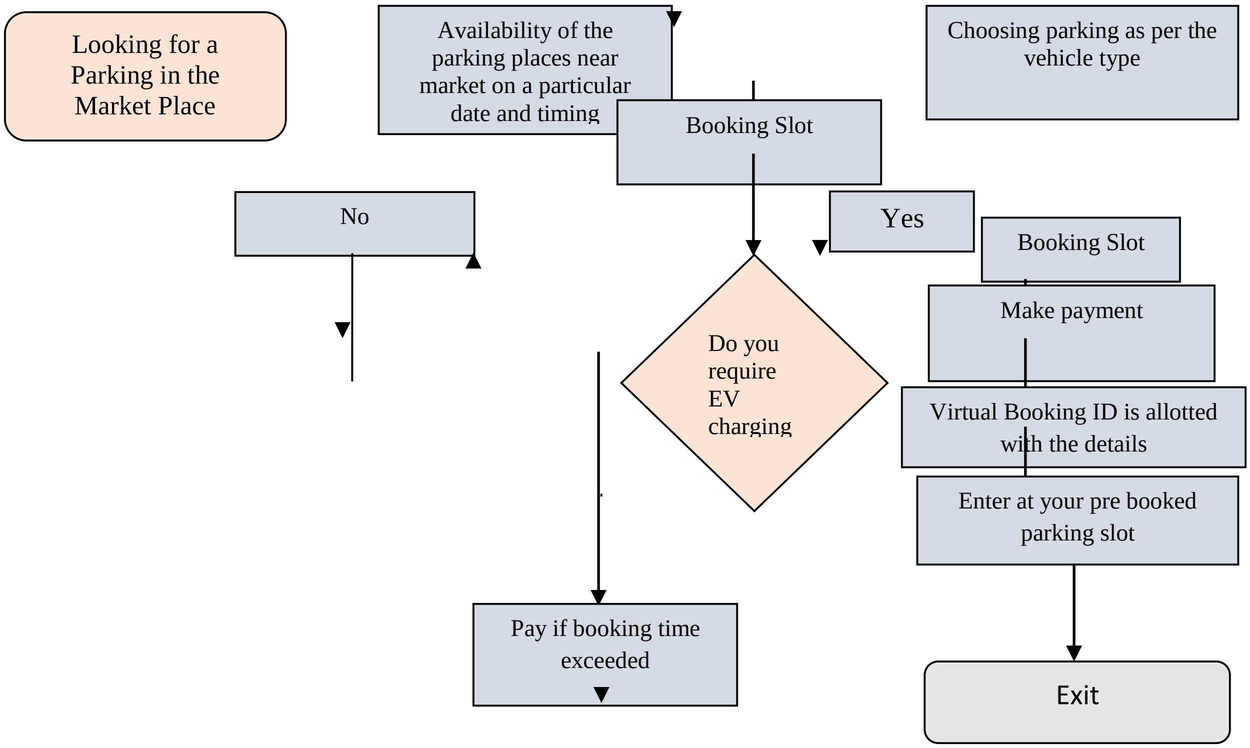
Effect of shortage of Parking at Market

The cities in Uttar Pradesh which has maximum number of opportunities in form of employment, job, tourism, health care and hub of small and medium scale industries are the cities which have to suffer most. Due to crowd on roads, long hours in traffic, scarcity of parking, shortage of availability of wide roads which further leads to road jam and wastage of fossil fuels, which further adversely effects environment due to air pollution and noise pollution by continuously honking.

Lucknow the capital of Uttar Pradesh has been experiencing traffic problems due to the shortage of parking, haphazard driving etc even when road density in urban Uttar Pradesh is 7.2 whereas the city has road density of 10.2 which is much higher than other cities in the state (SENES Consultants India Pvt. Ltd, 2020) therefore we can further hypothesize about the condition of the cities.

The shortage of parking at market place has an adverse effect on the businessmen, customers has to select products from the stores which are near to their residence, which lacks range and availability of multi brands. Lucknow the capital city of UP had recently closed 53 roadside parking slots due to the scarcity of basic public amenities (Times News Network, 2021), problem of parking lots which are far from the market place are also of concern (Times News Network, 2012), Kanpur which was once famous as Manchester of East having an identification of an industrial city has been also facing problems of parking due to which economic activities have been also effected (Tekwani, 2020).

Figure 1.2 Flowchart for Parking App for Sustainable cities for achieving SDGs



The flow chart in figure 1.2 shows the parking app which enables commuters, households, and businessmen for booking parking slots near the commercial and industrial areas in the city, offering an extra benefit facility with charging EVs at parking slot. This parking area will help cities to attain the SDG no.7 and 11 with minimal time for searching for parking, less traffic on roads will be instrumental in downsizing maintenance cost of vehicles leading to savings. EVs owners will help in reducing the air pollution of cities, thus bringing a positive change in the AQI level also which will surly help in achieving the SDG and safeguard clean environment for future generations. **Parking Lots with E-Charging Stations---Partners and Players**

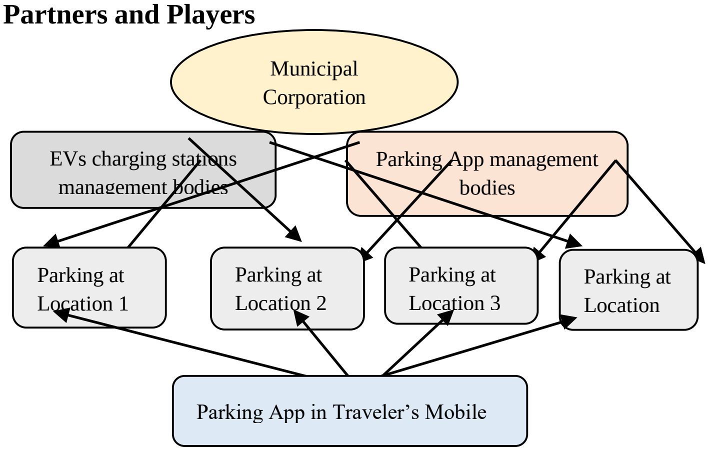


Figure 1.3 Process of Monitoring Parking with EVs Charging stations

The figure 1.3 shows the process of securing parking slots at various market places, commercial places, important part of this model has to be applied by the government in form of providing permissions for setting up EVs charging stations, identification of vacant areas which can be developed as parking slots and strengthening PPP model (Public private partnership), hiring of agencies which will help to run the app on real time server showing different parking slot available at different locations in the cities

The process will help into securing SDGs reducing air pollution, creating employment opportunities, reducing stress upon commuters by less traffic at peak hours, safeguarding the interests of business, reduction in normal wastage time at commercial places which is present due to employees not reaching on time etc.

IV. Conclusion

The study will help our cities to transform from those which are burdened by air pollution, noise pollution, long traffic hours, high consumption of fossil fuels, and citizens health issues such as breathing, hyper tension and road rage into sustainable cities which will have clean and green cities, parking lots which will create more employment opportunities ,less consumption of fossil fuels, less shopping hours as time for searching parking will be minimized then only the SDGs No.7 and 11 will also be achieved. The study focuses on the air quality index of the three cities of Uttar Pradesh which are major hub of commercial and industrial activities and people face health problems and flora and fauna are also adversely effected in such hubs, these cities suffer at peak traffic hours, cities like Varanasi, Prayagraj are there which have great importance in history and have heritage importance too in Uttar Pradesh, cities has narrow lanes and lacks proper road network at commercial hubs. Thus application of an Mobile based app which can show real time parking lots at different locations in the cities will surely help the citizens and boost government efforts to reduce usage of fossil fuels which will effect prospect automobile consumer buying behavior too. Further studies can be conducted on the scope of employment opportunities, savings done by households on fuel consumption in substitution of usage of EVs.

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IMPACT OF COVID-19 ON THE STOCK PERFORMANCE: A STUDY OF OIL AND GAS COMPANIES LISTED ON NATIONAL STOCK EXCHANGE

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Purpose: This study is an attempt to assess the change in stock return performance of Oil and Gas companies during Covid-19. For this, the daily returns of five leading Oil and Gas companies, Reliance Petroleum Ltd., Oil and Natural Gas Corporation Ltd., Bharat Petroleum Corporation Ltd., Gail Ltd., and Indian Oil Corporation Ltd, are listed on the NSE, were taken. These top five companies were selected based on market capitalizations. By conducting an in-depth analysis, we aim to provide valuable insights into the complex and interconnected nature of these markets, shedding light on the long-term implications for these economies and their global counterparts.

Design/Methodology/Approach: We conducted this research by analyzing the daily returns of five prominent oil and gas companies selected based on market capitalization. The event study method was employed to assess the impact of COVID-19 on the stock prices of these companies. The event day chosen for analysis is 25th March 2020, coinciding with the Indian government's lockdown declaration. We examined four distinct event windows to evaluate both immediate and short-term effects on stock returns.

Findings: The results of this event study reveal a significant short-term impact of COVID-19 on the stock returns of all four event windows, indicating a notable influence on the oil and gas sector. These findings offer valuable insights for technical analysts seeking to understand the repercussions of unprecedented events on stock market performance.

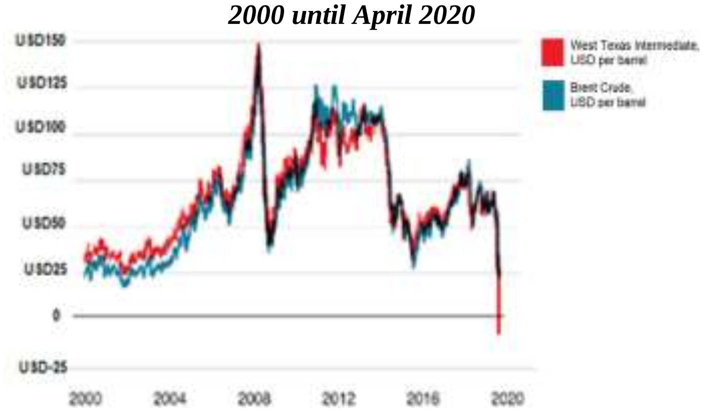
Originality/Value: This research contributes to our understanding of the economic consequences of the COVID-19 pandemic in India, specifically within the context of the oil and gas sector's stock performance on the NSE during these challenging times.

Keywords: *Covid 19, Event study, Oil and Gas sector, Stock Performance, NSE*
JEL Code: *G1, G15, G18*

The World Health Organization (WHO) declared the COVID-19 outbreak as a pandemic on March 11, 2020. The epidemic disease has produced shocking effects globally. The virus caused unemployment, a drop in oil prices, and a decline in the stock markets (Su et al., 2021). It greatly affected every market, but the oil and gas market was hit the hardest. Many oil companies in the world have been forced to shut down or slow down their physical operations due to the virus's spread. The ambiguity in the oil market further challenges policymakers and investors around the globe. Since there is substantial nexus between oil and other financial markets, the spillover of oil shocks to other financial markets is considered more persistent during the COVID-19 outbreak. Hence, intense volatility has been observed in other markets. The COVID-19 outbreak has strongly affected the volatility and returns in the oil market (Narayan, 2020).

The sharp drop in crude prices has been the most significant effect of the coronavirus pandemic on the oil market. The price of a barrel of crude oil on the NASDAQ New York Stock Exchange on January 1, 2020, was 67.05 dollars. This price had dropped to $30.00 per barrel by March 15, 2020. As per the OECD report -in September 2020, the price of oil sunk to levels not seen since 2002 because the demand for crude collapsed, and as a result, the companies had to cut back or close production amid the coronavirus pandemic (Figure-1). The decision to halt production was made because demand for transportation has been impacted by grounded airlines and fewer cars on the road as countries implement stricter measures to combat the coronavirus outbreak.

Figure 1. Price developments crude oil in USD dollars, from 2000 until April 2020



Source: *BBC Coronavirus: Oil price collapses to lowest level for 18 years, https://www.bbc.com/news/business-52089127.*

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Oil and gas companies' stock performance has always been seen as a complicated matter. The fall in oil prices is influenced by various factors that are fundamental and not for speculation. These changes in oil prices depend on the interaction between oil demand and oil supply, which is directly or indirectly impacted by economic inference and geopolitical tension (Hamilton, 1983). Oil prices are affected by several factors, including output decisions made by producers such as the Organisation of Petroleum Exporting Countries (OPEC), independent Petro-states such as Russia, supply and demand, natural disasters, politics, political instability, production costs, interest rates, and so on. The recent COVID-19 outbreak has strongly affected the volatility of returns in the crude oil market and, therefore, reached huge consideration from academicians to explore the dynamics of the effect of covid-19 on oil price shocks (Foglia & Angelini, 2020a; Sharif et al., 2020; Sheng et al., 2020a). Substantial research has been carried out in the past couple of years on the incidence of the COVID-19 outbreak (Ashraf, 2020; Bouri et al., 2020; Dutta et al., 2020; Rizwan et al., 2020).

This study attempts to assess the change in stock return performance of Oil and Gas companies during Covid-19. For this, the daily returns of five leading Oil and Gas companies, Reliance Petroleum Ltd., Oil and Natural Gas Corporation Ltd., Bharat Petroleum Corporation Ltd., Gail Ltd., and Indian Oil Corporation Ltd, are listed on the NSE, were taken. These top five companies were selected based on market capitalizations. The reason for investing in crude oil companies is that it is a critical commodity for both financial markets and economic growth. In order to analyse the impact of Covid 19 on the oil and gas companies' stocks price, the event study method was applied. The event day was taken as 25th March 2020 because, on that day, the government declared a lockdown in India. The analysis was conducted for four event windows of the stock returns of all five companies. These windows were selected to analyse the immediate and short-term impact of the lockdown on the different stock markets.

The rest of the paper is structured in the following manner: Section 2 comprises a literature review. Section 3 discusses the Research design and methods, including the Event methodology, calculation of CAR for all the returns, framing of hypothesis and the T-test, which is applied to the data of all different windows to check the significant impact of the event on the returns. The results and discussions are outlined in Section 4, while the last section, i.e. Section 5, looks at the conclusions.

I. Review of Literature

The relationship between the oil market and other markets has also been widely examined in the literature (Bibi et al., 2021; Cong et al., 2008; Kushwah & Siddiqui, 2020; Gu et al., 2020; Ji et al., 202; Siddiqui & Kushwah, 2022). The connection between oil prices and stock returns reflects that oil prices can directly affect the stock market by impacting future cash flows or indirectly through an impact on the interest rate used to discount future cash flows (Salisu & Isah, 2017). Different researchers have examined the association of oil prices with different markets, such as financial markets (Awartani et al., 2016), clean energy markets (Foglia & Angelini, 2020a; Reboredo, 2015), the stock market (Nasreen et al., 2020). Ahmad and Moran (2013) looked at the long-term relationship between oil prices and exchange rates in twelve major economies producing and using oil. Their results showed cointegration in five of those examined countries (i.e., Brazil, Mexico, Nigeria, South Korea and the United Kingdom) and in the eurozone. The authors also concluded that Brazil, Nigeria, and the UK had to make fewer significant changes after nasty shocks than after good ones.

Yang et al. l (2017) used a wavelet coherence framework (WTC) to examine the relationship between the price of crude oil and the exchange rate of the top eight oil importing and exporting countries. The research concluded that the association between exchange rates and crude oil prices vary over time. The finding indicated that the contagion occurred between the oil and foreign exchange markets in that period. Zivkov et al. (2019) examined the co-movement between Brent oil prices and the exchange rate in ten emerging markets economies (EMEs) of Asia, Africa, Eastern Europe and South America. The results showed that, during the Great Recession of 2008-2009, there was a strong negative coherence in most oil-importing countries and all oil-exporting countries.

Dacio (2020) examined the association between COVID-19 shock and WTI crude prices with exchange rates to the US dollar of five EMEs currencies, namely the Brazilian real, the Colombian peso, the Mexican peso, the Russian ruble and the South African rand. The results showed that in a crisis like the COVID-19 pandemic, the currencies of oil exporting and importing countries depreciate and, at the same time, oil prices fall. Albulescu (2020) examined the influence of COVID-19 data on the prices of Crude WTI while controlling the effect of the CBOE volatility index (VIX) and the United States Economic Policy Uncertainty Index (UPR). The results suggest that COVID-19 indirectly changed the pattern of crude oil prices in early 2020 by making the financial market more volatile. However, the study finds that the long-term impact of new daily COVID-19 infections on crude oil prices was negative but marginal.

The COVID-19 pandemic caused a global shock in the demand and supply of crude oil. The uncertainty heightened anxiety, and as a result, the governments urged to shut down the production (Bourghelle et al. l, 2021). The crude oil prices reached their lowest point in history. On April 20, 2020, the West Texas Intermediate (WTI) crude price plummeted to US$37 per barrel, marking an unprecedented 300% drop in price. The factors potentially responsible for this decline were the Russia and Saudi Arabia price war and the COVID-19 pandemic (Devpura & Narayan, 2021). Much research has been carried out on crude oil and price volatility due to the covid-19. Meher et al., 2020 studied the impact of COVID-19 on the price volatility of Crude oil and Natural Gas listed on the Multi Commodity exchange of India. They employed the EGARCH Model for price volatility and found that it was high during that period. Mengyao & Huayu (2020) have also studied the performance of energy companies during the outbreak of COVID-19, and they have taken the financial data of the listed companies in China's energy industry from 2014 to 2020. They also found that the COVID-19 pandemic negatively impacted the energy industry's corporate performance. Similarly, Dutta et al., 2020, find that the COVID-19 outbreak has significantly affected the global energy markets.

Against this backdrop, this study deals with the stock returns of five major oil and gas companies in India: Reliance Ltd., Oil and Natural Gas Corporation Ltd., Bharat Petroleum Corporation Ltd., Gail Ltd., and Indian Oil Corporation Ltd. This study will help regulators and policymakers formulate policies to preclude shocks from being systemic to the stock market. Understanding the return and volatility due to event shocks is vital for investors to avoid risks when investing.

II. Research Design and Methods

The study aims to analyse the short-term impact of Covid-19 on the returns of oil and gas companies listed on the National Stock Exchange. For this study, the daily returns of five leading oil and gas companies listed on the NSE were considered. These companies are chosen based on their respective market capitalizations (Nathani & Kushwah, 2022). The five companies are Reliance Ltd., Oil and Natural Gas Corporation Ltd., Bharat Petroleum Corporation Ltd., Gail Ltd., and Indian Oil Corporation Ltd. The stock price data is collected from the official website of www.investing.com for the five selected companies. The daily log returns are calculated for better results by using the equation (Bhatia & Kushwah 2023).

$$Log\ returns = \ln\left(\frac{Price_t}{Price_{t-1}}\right)$$

An event study is a good way to find out if there is a link between a certain event and how the stock market reacts to it (Kushwah, Siddiqui, and Singh, 2022; Kushwah & Vigg 2023; Kushwah & Vigg, 2019). This research is divided into two parts, i.e., pre covid and post covid analysis. The event date is March 25, 2020, because the Indian government declared a state of emergency on that date. The analysis is conducted for four event windows on all the stock returns. We chose four windows to examine the immediate and short-term impact of the lockdown event on the stock returns of various oil and gas companies on the stock market. The first window comprises the three days immediately preceding and after the event day, and is used to assess its immediate impact. The second window covers the week leading up to and including the event itself. The third window covers a span of 15 days before and after the event. The final window is 30 days before and after covid, which shows an increase in instances in India.

The event study methodology describes below-

First, we calculated abnormal returns and cumulative abnormal returns. The formula is –

Abnormal returns = Log return – Average return

Then we calculated CAR for all the returns. Cumulative Abnormal Returns (CAR) are computed by adding all abnormal returns since the event day. It can be harmful as well as positive. To determine whether the event significantly impacts the returns, a paired sample T-test is applied to the data from all different windows (Kushwah, Nathani & Vigg 2021). The following hypotheses have been formed:

H1: There is no significant difference in the returns of individual company three days before and after the event of lockdown in India.

H2: There is no significant difference in the returns of Nifty three days before and after the event of lockdown in India.

H3: There is no significant difference in the returns of individual company seven days before and after the event of lockdown in India.

H4: There is no significant difference in the returns of Nifty seven days before and after the event of lockdown in India.

H5: There is no significant difference in the returns of individual company fifteen days before and after the event of lockdown in India.

H6: There is no significant difference in the returns of Nifty fifteen days before and after the event of lockdown in India.

H7: There is no significant difference in the returns of individual company one month before and after the event of lockdown in India.

H8: There is no significant difference in the returns of Nifty one month before and after the event of lockdown in India.

III. Results and Discussion

As the study tries to analyse the short-term impact of COVID-19 on the returns of oil and gas companies listed on the National Stock Exchange, 4 windows have been utilised. Abnormal and cumulative abnormal returns have been calculated for all four windows. The calculated data of all four windows are used to apply a paired sample test to check the following broad null hypothesis:

H1: There is no significant difference in the returns of individual company three days before and after the event of lockdown in India.

H2: There is no significant difference in the returns of Nifty 50 and Nifty oil and gas index three days before and after the event of lockdown in India.

The results of the abovementioned hypotheses are discussed as follows –

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Table 1: Results of window 1 (3 days)

Paired Samples Test

Rel		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	.0139022	.0387044	.0223460	-.0822450	.1100493	.622	2	.597

Paired Samples Test

ONGC		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0102814	.0379395	.0219044	-.1045284	.0839655	-.469	2	.685

Paired Samples Test

BPCL		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0424657	.0273152	.0157705	-.1103205	.0253891	-2.693	2	.115

Paired Samples Test

GAIL		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	.0292428	.0244693	.0141274	-.0315423	.0900280	2.070	2	.174

Paired Samples Test

IOC		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0173354	.0139175	.0080353	-.0519084	.0172376	-2.157	2	.164

Paired Samples Test

INIFTY	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			

Pair 1	pre - post	-.0320184	.0404542	.0233563	-.1325123	.0684755	-1.371	2	.304

Paired Samples Test									
NSE-OG		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0098833	.0272010	.0157045	-.0774544	.0576878	-.629	2	.593

The null hypothesis in this event states that there is no significant impact of the event day, i.e. pandemic, on the stock returns of all individual companies and nifty to three days before and after the event, and the results in table 1 highlight that there is no immediate impact of the pandemic on the stock returns of all the oil and gas companies considered individually. The same is the case in the Nifty 50 and Nifty oil and gas index returns.

H3: There is no significant difference in the returns of individual company seven days before and after thee event of lockdown in India.

H4: There is no significant difference in the returns of Nifty 50 and Nifty oil and gas index seven days before and after the event of lockdown in India.

The results are discussed as follows –

Table 2: Results of window 2 (7days)

Paired Samples Test									
Rel		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0223112	.0244590	.0092446	-.0449320	.0003096	-2.413	6	.050

Paired Samples Test									
ONGC		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0192796	.0501246	.0189453	-.0656371	.0270780	-1.018	6	.348
Paired Samples Test									
BPCL		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre –	-.1210605	.0215834	.0081578	-.1410218	-.1010991	-14.840	6	.000

	post								
Paired Samples Test									
GAIL		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0010527	.0449276	.0169810	-.0426038	.0404984	-.062	6	.953
Paired Samples Test									
IOC©		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0340041	.0106712	.0040333	-.0438733	-.0241350	-8.431	6	.000
Paired Samples Test									
INIFTY		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0560482	.0375799	.0142039	-.0908038	-.0212925	-3.946	6	.008
Paired Samples Test									
NSE-OG		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0406118	.0184658	.0069794	-.0576898	-.0235338	-5.819	6	.001

The null hypothesis in this event states that there is no significant impact of the event day, i.e. pandemic, on the stock returns of all individual companies and nifty too seven days before and after the event, and the results in table 2 highlight that for the companies except for ONGC and GAIL, there is an impact of the pandemic on the stock returns, which means the returns of oil companies are significantly different seven days before and after the lockdown date. The same is the case in the Nifty 50 and Nifty oil and gas index returns.

H5: There is no significant difference in the returns of individual company fifteen days before and after the event of lockdown in India.

H6: There is no significant difference in the returns of Nifty 50 and Nifty oil and gas index fifteen days before and after the event of lockdown in India.

The results are discussed as follows –

Table 3: Results of window 3 (15 days)

Paired Samples Test									
Rel		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0971119	.0476345	.0122992	-.1234910	-.0707328	-7.896	14	.000
Paired Samples Test									
ONGC		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.1004909	.0445471	.0115020	-.1251603	-.0758216	-8.737	14	.000
Paired Samples Test									
BPCL		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.2038898	.0366546	.0094642	-.2241884	-.1835911	-21.543	14	.000
Paired Samples Test									
GAIL		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0922567	.0377539	.0097480	-.1131641	-.0713492	-9.464	14	.000
Paired Samples Test									
IOC		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.0767190	.0174746	.0045119	-.0863961	-.0670419	-17.004	14	.000
Paired Samples Test									
NIFTY		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.1204228	.0433764	.0111997	-.1444438	-.0964017	-10.752	14	.000

Paired Samples Test									
NSE-OG		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-.1088877	.0306660	.0079179	-.1258699	-.0919054	-13.752	14	.000

The null hypothesis in this event states that there is no significant impact of the event day, i.e. pandemic, on the stock returns of all individual companies and nifty to fifteen days before and after the event, and the results in table 3 highlights that for all the companies, there is an impact of the pandemic on the stock returns, which means the returns of oil companies are significantly different fifteen days before and after the lockdown date. The same is the case in the Nifty 50 and Nifty oil and gas index returns.

H7: There is no significant difference in the returns of individual company one month before and after the event of lockdown in India.

H8: There is no significant difference in the returns of Nifty 50 and Nifty oil and gas index one month before and after the event of lockdown in India.

The results are discussed as follows –

Table 4: Results of window 4 (30 days)

Paired Samples Test									
Rel		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre – post	-.2056408	.0429622	.0078438	-.2216832	-.1895985	-26.217	29	.000
Paired Samples Test									
ONGC		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre – post	-.1777707	.0600169	.0109575	-.2001813	-.1553600	-16.224	29	.000
Paired Samples Test									
BPCL		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre – post	-.2634742	.0686653	.0125365	-.2891143	-.2378342	-21.017	29	.000
Paired Samples Test									
GAIL		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			

Pair 1	pre – post	-.1718525	.0561604	.0102534	-.1928231	-.1508818	-16.760	29	.000
Paired Samples Test									
IOC		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre – post	-.1054414	.0407721	.0074439	-.1206659	-.0902168	-14.165	29	.000
Paired Samples Test									
NIFTY		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre – post	-.1772211	.0488665	.0089218	-.1954682	-.1589741	-19.864	29	.000
Paired Samples Test									
NSE-OG		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre – post	-.1792535	.0415476	.0075855	-.1947676	-.1637393	-23.631	29	.000

Table 4 shows that there is an impact of the pandemic on the stock returns of all the companies, meaning that the returns of oil companies are significantly different one month before and after the lockdown date, contradicting the null hypothesis that there is no significant impact of the event day, i.e. pandemic, on the stock returns of all individual companies and nifty. Similarly, the returns of the Nifty 50 and the Nifty oil and gas indices are virtually identical.

IV. Conclusion

As a result of the pandemic, several oil corporations around the world were had to either completely halt their activities or significantly reduce the pace at which they carried them out. The uncertainty in the oil market presents additional hurdles to policymakers and investors in every region of the world. As a result of the considerable link that exists between the oil market and the other financial markets, it is believed that the spillover of oil shocks to the other financial markets will be more persistent during the COVID-19 outbreak.

The study's objective was to assess the change in stock return performance of Oil and Gas companies during unprecedented times like Covid-19. For this study, the daily returns of five leading Oil and Gas companies listed on the NSE were taken to apply the event study method.

In order to investigate the immediate and short-term effects that the lockdown had on the various stock markets, an analysis was performed on the returns of all stocks during the course of four event windows.

The outcomes of this event research indicated a large influence of Covid 19 in the short term, i.e. Covid., 19 greatly impacted the oil stock returns of all four windows. This was highlighted by the fact that Covid 19 had a considerable impact on the oil stock returns.

The findings would be helpful to the technical analyst in understanding the impact that occurrences of this magnitude have on the returns of the stock markets. This research will help regulators and policymakers design rules to prevent shocks on the stock market from becoming systemic in nature. To avoid incurring unnecessary risks when investing, it is essential for investors to have a solid understanding of the return and volatility caused by event shocks.

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TRACING THE DRIVERS BEHIND CORPORATE SOCIAL RESPONSIBILITY THROUGH THE LENS OF A SYSTEMATIC REVIEW OF LITERATURE

Deepti Singh*Silky Jain**

Purpose*: This paper attempts to review and synthesize the literature on the drivers of CSR in a systematic manner to identify the growth trends, the most influential authors, articles of this area of research coupled with tracing the geographic regions/countries that dominate publication on the theme, collating a citation score in order to identify the most cited papers in the domain and developing a timeline for thematic development of research in the domain.*

Research Design*: The study used a well-documented Systematic literature review procedure suggested by Tran field, Denver and Smart (2003). Two databases namely Scopus and web of science were identified for reviewing papers for the study. Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) was used to extract 1920 papers and on refinement 144 papers were identified for full screening and finally 101 papers are reviewed for drawing conclusions and publication metrics.*

Findings*: In the light of the evolution of the CSR, the systematic literature review concluded that although there are many factors driving CSR, managerial perceptions and values, top management commitments, presence of CSR/sustainability committee, branding, reputation management, stakeholders' pressure, competitive advantage, regulatory forces, were observed to be the major drivers of CSR.*

Originality: *Through a comprehensive study of existing literature, the study has culminated into the identification of ten broad categories of drivers behind CSR commitments and developed a timeline of progress of this concept over a period of time ranging from philanthropy to stakeholders' pressures to more recently, sustainability*

Keywords: *Corporate Social Responsibility, CSR Drivers, CSR practices, Stakeholders, Systematic literature Review*
JEL Classification: *M14***,** *Q56*

Corporate Social Responsibility or CSR is a well deliberated concept in the annals of research and the arena is still growing as we write this paper. Drawing its roots from charity and philanthropy, it broadens its horizons to a managerial concept which encompasses the integration of social and environmental concerns in the operations of business and gets reflected in the interactions with stakeholders. According to the United Nations Industrial Development Organization (UNIDO), "CSR is generally understood as being the way through which a company achieves a balance of economic, environmental and social imperatives (Triple-Bottom-Line-Approach), while at the same time addressing the expectations of shareholders and stakeholders." "Corporate social responsibility encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations at a given point in time" (Carroll 1991). There are numerous factors which stimulate businesses to pursue variety of CSR strategies. Academicians and practitioners have identified a whole array of factors ranging from ethics, religion, pressure groups, competitive advantage to government regulations. In fact, the importance of CSR has grown like socio-environmental movement across nations with the governments of many countries making it mandatory for the companies to contribute a part of their profits towards Corporate Social Responsibility. This paper attempts to review, systematically analyse and synthesize the literature on the drivers of CSR in a systematic manner.

Objectives of the Study

The paper aims to systematically study the extant literature on Corporate Social Responsibility to

- Identify the main factors that act as drivers behind the CSR commitments of organisations.
- Give a brief overview of growth rate of research papers in the field over the time period identified.
- Identify papers on basis of country and identify countries doing maximum research in the domain.
- Collating a citation score of the papers to identify the most cited papers in the domain.
- Developing a timeline for thematic development of research in the domain.

A systematic literature review was carried out to understand the drivers behind the Corporate Social responsibility commitments of the firms.

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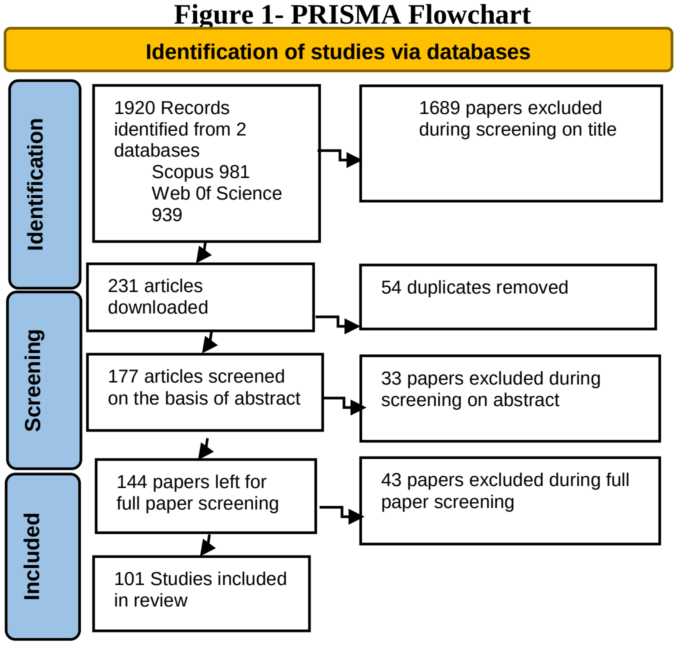
The study used a well-documented procedure suggested by Tranfield, Denyer and Smart (2003), which involves three stages i.e., planning, execution and reporting. In the planning stage, the objectives of the study were determined and the key databases were identified.
To review the existing literature, papers were collected from 2 databases, i.e., Scopus and Web of Science.
The execution stage involved identification of search criteria, PRISMA and data analysis.

I. Review of Literature

Search criteria commenced with the identification of keywords. By using the keywords- "Drivers of Corporate Social Responsibility", 981 papers were found on the Scopus database and 939 papers were found on the Web of Science. Different parameters were also considered while selecting the papers. These were-

- Language- Only papers available in English language were selected to avoid translation problems.

Figure 1- PRISMA Flowchart



Source: *Authors compilation*

- Time horizon- Papers published till September, 2022 were considered. The first paper related to the study was of 2004 (In fact, there were two papers related to 2004, i.e., Hemingway and Maclagan, 2004 and Moon, 2004) and therefore the study involved papers from 2004 to 2022.
- Sources- The sources were limited to the published articles and reports. Therefore, conference proceedings were excluded from the study.

PRISMA (PREFERRED REPORTING ITEMS FOR SYSTEMATIC REVIEWS AND META ANALYSIS) was used to recognize, choose, appraise and synthesize the studies. PRISMA presented a summary of papers excluded at each stage of review in the form of a flow chart (Figure 1). The following flowchart shows how the papers were included in the study.
Firstly, a total of 1920 papers were screened on the basis of title. The papers whose title was evidently not related to the drivers of Corporate Social Responsibility were precluded to be carried out to the next stage of analysis resultantly, 231 papers (153 from Scopus and 78 from Web of Science) were downloaded for further study. Thereafter, using the "remove duplicate" command in excel, 54 duplicate papers were removed. Thereafter, the abstracts were examined to check whether the papers cohere with the objectives of the study or not. Reviewing abstracts resulted in exclusion of 33 papers at this stage and 144 papers were culled for full paper study which were then critically examined for their linkages with the objective of this paper leading to exclusion of 43 papers atthis final stage and 101 papers were ultimately included in our study.

II. Research Design and Methods

For each published document, following dimensions were analysed.
Countries Investigated-Selected papers were analysed on the basis of development status of the countries investigated. Out of 101 papers, 44 papers focused mainly on developing countries, 32 papers focused on developed countries, 10 papers considered both developed and developing nations, and in 15 papers no specific country was mentioned (Refer to table 1).

Table 1- Countries Investigated

Countries Investigated	**No. of Papers**
Developing	44
Developed	32
Both developed and developing	10
No specific country	15

Source: *Compiled by the researcher from the data collected.*

Table 1 indicates that research in developing countries on CSR drivers is more popular. This may be because of a greater scope for bridging the socio-economic gaps has a greater scope though proper channelizing of CSR initiatives in addition to legal mandates. Lesser work is done in comparative analysis between developed and developing world.
Research Method undertaken- Papers were classified on the basis of research method used i.e., empirical, theoretical or case study based (Refer to table 2). Empirical papers dominate research as drivers behind CSR is no longer a research area in a conceptualisation stage, it is being practiced

for some time and any claims in the field need to be supported by empirical evidence.

Table 2-Research method used

Research Method	No. of Papers
Empirical	76
Theoretical	18
Case Study	7

***Source**: Compiled by the researcher from the data collected.*

Article Citation metrics- The papers were analysed on the basis of the number of times they were cited. Table 3 gives the list of top 10 most cited papers. Hemingway and Maclagan's work which talks about managers personal values as drivers behind CSR, was the pioneer study in the area and is the most cited work which is followed by the work of Bear, Rahman and Post that studied board composition as a driver behind CSR. These are the two most cited papers in the domain followed by other authors as compiled in the table below.

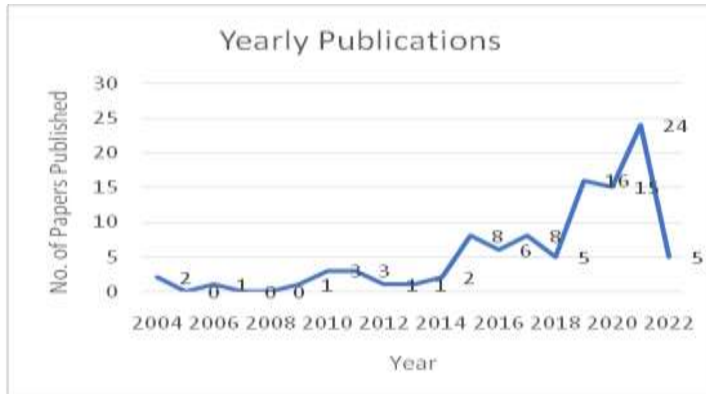
Table 3- List of top 10 most cited papers

S.No.	Author(s)	Year of Publication	Citations
1.	Bear, S., Rahman, N., & Post, C.	2010	2068
2.	Hemingway, C. A., & Maclagan, P. W.	2004	1931
3.	Lindgreen, A., Swaen, V., & Johnston, W. J.	2009	618
4.	Gond, J. P., El Akremi, A., Swaen, V., &Babu, N.	2017	567
5.	Scholtens, B.	2006	528
6.	Frynas, J. G., &Yamahaki, C.	2016	509
7.	Galbreath, J.	2010	389
8.	Godos-Díez, J. L., Fernández-Gago, R., &Martínez-Campillo, A.	2011	339
9.	Moon, J.	2004	324
10.	Arevalo, J. A., &Aravind, D.	2011	313

***Source**: List is compiled from the citation detail of each paper as given on google scholars on 31st Jan, 2023.*

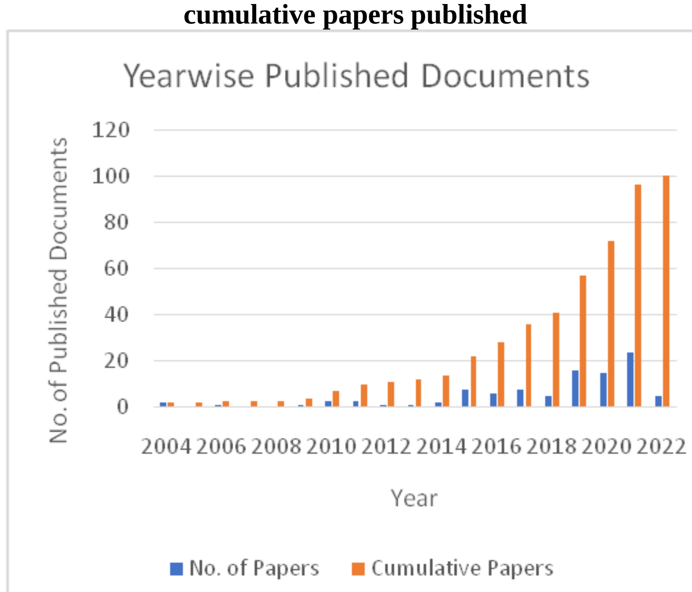
Annual Publications- Papers were analysed on the basis of yearly publication (refer to figure 2(a)) and cumulative number of papers published each year (refer to figure 2(b)). There was a rise in the number of papers published since 2015. It is the year when United Nations members adopted the SDG 2030 agenda, giving greater importance to environment and social sustainability along with economic prosperity and CSR started to be looked as a tool to achieve SDG goals along with other action points. Year 2019 again displayed a steep rise in publications in the domain as changing legal mandates in some countries like India, was making the field more intriguing for research. However, it is noteworthy to mention that in 2022, publications till September were covered which is a probable reason for fewer papers in 2022.

Figure 2(a)- Number of papers published each year since 2004



***Source**: Compiled by the researcher from the data collected.*

Figure 2(b)- Number of papers published yearly and cumulative papers published



***Source**: Compiled by the researcher from the data collected.*

The third and the final stage, i.e., reporting involved conceptual analyses of the selected papers. The outcome of this stage is described in the next section.

Drivers Behind Corporate Social Responsibility- Evidence from The Analysed Papers and Discussion

After a complete reading of all 101 papers, the evolution of the literature on drivers of CSR was traced by the researchers. The systematic literature review has paved way for segregation of the various drivers behind CSR into ten broad categories by the authors as discussed below.

III. Results and Discussion

Religious Beliefs, Ethics, Charity and Philanthropy

Initially CSR was seen as an outcome of the Christian religious philosophy. Christian religious philosophy gave way to social reforms and corporate philanthropy. Thus, initially CSR was more influenced by *religious beliefs, ethics, charity and philanthropy.* In many countries, CSR is treated as an ethical practice rather than strategic (Hsu & Cheng, 2012). Many researchers found ethics, moral values, charity, humanistic approach, religion, family traditions, spirituality, etc. to be the important CSR drivers (Alizadeh, 2022; Arevalo & Aravind, 2011; Dartey-Baah & Amoako, 2021; Hamidu et al., 2016; Holtbrügge & Oberhauser, 2019; Khan et al., 2021; Mariani et al., 2021; Martos-Pedrero et al., 2022; Pinto & Allui, 2020; Rahmawati et al., 2019; Vukic et al., 2017). Particularly, in start-ups CSR initiatives are influenced by their philanthropic drives(Voinea et al., 2019). Corporate Philanthropy or the philanthropic drives were majorly influenced by spirituality(Bhatnagar et al., 2020), employees' donations(L. Zhang et al., 2019)and guilt among business leaders (Ji et al., 2021)**,** while charity was found to be motivated by normative drivers (Zhu & Zhang, 2015). However, few authors considered ethical factors to be the least important driver (Panda et al., 2019) while others found charitable behaviour, and philanthropy as the most important subjective barriers (Agudo-Valiente et al., 2017) .

Labour/Employees' Welfare

Very soon the businessmen realised the need of improving the quality of life of their employees by initiating various welfare schemes. Thus, CSR started getting influenced by the *labour/ employees' welfare*. Many researchers observed that the socio-cultural and political beliefs of the employees (Borghesi, 2018), intention of the employees (Dartey-Baah & Amoako, 2021)and workforce diversity (Câmara & Petrenko, 2021) are powerful drivers of the CSR practises of any organisation. Employee motivation was also identified as one of the drivers behind sustainable behaviour(Cantele & Zardini, 2020). Also, it was asserted that the employee rights, labour practices and fair operating practices are motivated by the normative drivers (Zhu & Zhang, 2015).

Financial Impetus

In the beginning of the 20th century, the managers started balancing the profit maximisation with the demands of various clients, employees and community. Thus, *profit maximisation* also came into picture as a driver of CSR. Financial drivers emerged to be one of the primary CSR drivers (Moktadir et al., 2018). Among the financial or economic drivers, growth, profitability, cost savings, goodwill enhancement and increase in profit potential were prominent (Chen & Hamilton, 2020; Latapí Agudelo et al., 2020; Panda et al., 2019; Sharma, 2020)**.** Particularly, in the start-ups, the financial benefits were found to be the constant motivators of the CSR engagement (Voinea et al., 2019)**.** Other than this, few company characteristics like age, size, slack financial resources, leverage, etc. also emerged as important CSR drivers (Chen & Hamilton, 2020; Doś&Pattarin, 2021; Madden et al., 2020).

Stakeholders

In 1953, Bowen- the father of Corporate Social Responsibility observed that the decisions and actions of the businessman have an impact on the stakeholders, employees and customers. Therefore, the *stakeholders* emerged as an important driver of CSR. CSR practices were majorly influenced by the Stakeholders' approach(Agudo-Valiente et al., 2017; Arevalo & Aravind, 2011; Crifo & Forget, 2015; Feder & Weißenberger, 2021; Govindan et al., 2014; Mazzei et al., 2015; Park & Ghauri, 2015; Shnayder et al., 2016; S. Singh & Mittal, 2019; Vukic et al., 2017; Zahidy et al., 2019)**.** Stakeholder engagement and satisfaction emerged as important CSR drivers(Latapí Agudelo et al., 2020). Stakeholder theory and Institutional theory dominated the CSR literature (Frynas & Yamahaki, 2016). Various studies evidenced the impact of local community, consumers, NGOs, investors, media, employees, creditors, owners, institutional peers, community peers, managers, board of directors, normative social pressures and imitative peer pressures on the CSR engagements of an organisation (Alizadeh, 2022; Bello & Kamanga, 2020; Fallah Shayan et al., 2022; Li et al., 2020; Madden et al., 2020; Marfo et al., 2016; Massoud et al., 2020; Mzembe et al., 2016; Ng et al., 2022; PINTO & ALLUI, 2020; K. S. D. Singh et al., 2019; S. Singh et al., 2021; Stjepcevic & Šikšnelytė Butkienė, 2017). The CSR practices differ among the organisations on the basis of the relative importance of different types of stakeholders in different organisations (Lindgreen et al., 2009). However, the primary stakeholders (Government, Competitors, Creditors, Customers, Shareholders and Employees) had a stronger influence than the secondary stakeholders (Local community, NGOs and Media) (S. Singh & Mittal, 2019). Even few authors identified stakeholder perspective as a barrier to CSR (L. Zhang et al., 2019).

Few studies concentrated on the investors' particularly and observed that both market sentiments and investor sentiments derive the CSR performance of a firm. but the sentiments of individual investors had greater influence on the CSR efforts as compared to the market sentiments (Cheong et al., 2017). Whereas, another study found the influence of the demographic characteristics of Socially Responsible Investors (SRIs) on their CSR attitudes (Cheah et al., 2011).

Industry or the sectoral conditions had a strong influence on the CSR activities of the firms studied which suggested that the competitive concerns and market pressures were the important drivers of CSR (Brown & Knudsen, 2015; Rodríguez Bolívar et al., 2015).

Serving Society

During 1970's, it was realised that the businesses exist to serve the society which made *serving society* as an important CSR driver. Investing in community social programmes (Rodríguez Bolívar et al., 2015), societal drivers (Marfo et al., 2016), inherent sense of responsibility towards the society (Panda et al., 2019), social commitments and social licence to operate (Latapí Agudelo et al., 2020) and community expectations (Bello & Kamanga, 2020) were observed to be the important drivers of CSR. ACAP which can be defined as 'the ability of a firm to acknowledge, assimilate, and apply knowledge about its obligations to society and its stakeholders beyond legal compliance' also had a significant impact on CSR practices(Martos-Pedrero et al., 2022). Now, there were different opinions as to what prompts the organisations to serve society. Studies found that the possible reasons could be that the financial institutions may discourage those activities which are detrimental to the environment and society and promote environmentally or socially desirable activities (Scholtens, 2006)**,** availability of funds with bigger organisations help them to cater to the society (Lindgreen et al., 2009)or high Return on Assets (ROA) motivates firms to invest in social welfare (Kludacz-Alessandri & Cygańska, 2021). It was also asserted that the political connections have a stronger impact on the social dimensions of CSR (Xu & Liu, 2020). However, few authors identified societal pressure as the least important critical success factor (Li et al., 2020).

Decision-Making and Leadership

However, during the late 20th century, it was asserted that the CSR should be viewed as a *decision-making process*. Various studies focussed on different dimensions of management and organisational structure and culture as the drivers of CSR. Managers'/CEOs' personal values(Hajdu et al., 2021; Hemingway & Maclagan, 2004); perceptions(Godos-Díez et al., 2011; Rodríguez Bolívar et al., 2015),preferences(Yamak et al., 2019); ego motives(Gond et al., 2017); personality, and experience(Voinea et al., 2019); skills (Zahidy et al., 2019); education level(Sun et al., 2021); incentives(Fabrizi et al., 2014);pro activeness, knowledge and perceived importance of CSR(Feder& Weißenberger, 2021); self-interest and outlook(Khan et al., 2021); support/commitment(Bello & Kamanga, 2020; Dartey-Baah & Amoako, 2021; Li et al., 2020; Ng et al., 2022; Ouyang et al., 2020; Yin, 2017); political connections, social and political views(Borghesi, 2018; Xu & Liu, 2020); marital status(Hegde& Mishra, 2019); institutional ownership (Chang et al., 2021) and managerial ownership(Ongsakul et al., 2021) were identified as crucial CSR drivers. Ethical or authentic leadership style was observed to have a positive impact on the employees' CSR perception and their engagement(Alizadeh, 2022; Chaudhary, 2021; Nejati et al., 2019)**.** Internal forces (i.e., inside directors) were found to positively influence corporate sustainability whereas external forces (i.e., Investors' activist engagement and the general expert directors) had a negative impact on corporate sustainability(Crifo et al., 2019).

Presence of the CSR committee, understanding of CSR heads and a number of features related to board of directors like board diversity, larger board size, family involvement in management, family CEOs, directors' geographical diversity were traced as important CSR drivers (Ditlev-Simonsen, 2010; Firoozi & Keddie, 2022; Godos-Díez et al., 2018; Kabir & Thai, 2021; Mariani et al., 2021). Particularly, the presence, education and leadership style of female managers/ board members were asserted to have a positive influence on CSR engagement of the organisation (Bear et al., 2010; del Mar Alonso-Almeida et al., 2015)**.** However, family involvement in the management was found to have a negative impact on the CSR engagement by a few authors(Venturelli et al., 2021)**.** Other than this, organisational structure, organisational culture and vision and philosophy of the founders were also marked as important drivers of CSR (Chen & Hamilton, 2020; Galbreath, 2009; Khan et al., 2021; Li et al., 2020; Zahidy et al., 2019)**.**

Corporate Social Performance and The Strategic CSR

By the end of the 20th century, based on the principles of CSR, a model of *Corporate Social performance* was created and the dimensions of *strategic CSR* were defined. Formal strategic planning was found to have a positive impact on the CSR (Galbreath, 2009)and the strategic planning is influenced by stakeholders' demands(Kalyar et al., 2013)and the firm, industry and individual level factors(Mazzei et al., 2015). Not only this, the females, the younger generation and the business school education promoted the strategic CSR (Holtbrügge & Oberhauser, 2019). CSR activities were perceived as a tool to enhance their corporate performance and corporate image (Lindgreen et al., 2009). Various studies identified perceived benefits of CSR in terms of long-term success, enhanced goodwill, image/reputation, improved employees' relationships, improved risk management as important drivers of CSR (Adomako & Nguyen, n.d.; Agudo-Valiente et al., 2017; Alizadeh, 2022; Allui & Pinto, 2022; Anantharaman et al., 2021; Chatzoglou et al., 2017; Dhanesh, 2015; Feder & Weißenberger, 2021; Latapí Agudelo et al., 2020; Mzembe et al., 2016; PINTO & ALLUI, 2020; Stjepcevic & Šikšnelytė Butkienė, 2017; Q. Zhang et al., 2019)**.** However, contrary to various studies, few authors claimedstrategic motivators like enhancing profit, reputation, organisational performance and satisfying stakeholders demand) as the least important motivators of CSR (Arevalo & Aravind, 2011; Massoud et al., 2020).

It was noted that Corporate Social performance was significantly influenced by CSR strategy and the presence of CSR committee (Wasiuzzaman et al., 2022) and can be improved by GRI reporting, government initiatives, and awards(Zahid et al., 2019) and by linking the compensation of CSR executives to CSR performance (Wasiuzzaman et al., 2022). Also, the meso-economic (industry level) variables and macro-economic variables (i.e., economic system) had major influence on the corporate social performance, whereas, the micro-economic variable (i.e., firm level variables) were not found to have a significant influence on corporate social performance (Cassely et al., 2020).

Competitive Advantage and Regulatory Pressures

In the beginning of the 21st century, it was observed that the strategic CSR helps the corporates in achieving *competitive advantage* and therefore became an important CSR driver.

It was identified that imperfect competition forced the businesses to use CSR as a business strategy to gain competitive advantage (Crifo & Forget, 2015). Therefore, competitive drivers were found to motivate the CSR practices (Zhu & Zhang, 2015)and competitive advantage or competitive dynamics were considered to be one of the key CSR drivers(Bello & Kamanga, 2020; Cantele & Zardini, 2020; Latapí Agudelo et al., 2020; K. S. D. Singh et al., 2019; Stjepcevic & Šikšnelytė Butkienė, 2017; H. Zhang et al., 2021).

Although the CSR reporting became mandatory in Norway in 1996, the major regulatory developments in CSR started in 2000's when China in its Company Law, 2006 stated that a company shall undertake "social responsibility" in doing the business. In 2007, Indonesia became the first nation in the world to mandate energy and extractive companies to disclose their CSR activities. Many countries made CSR a part of their regulatory framework during that phase. The government regulations and initiatives, regulatory pressures or regulatory drivers, legal drivers, licence to operate, policy pressures, legislative pressures or legislative framework, demands from international governance organisations, etc. were identified as crucial CSR drivers (Govindan et al., 2014; LatapíAgudelo et al., 2020; Li et al., 2020; Marfo et al., 2016; Moon, 2004; Mzembe et al., 2016; Ng et al., 2022; Panda et al., 2019; Stjepcevic&ŠikšnelytėButkienė, 2017; H. Zhang et al., 2021; Q. Zhang et al., 2019). The role of Government pressures was more profound in developing countries like China as compared to western countries (D. Zhang et al., 2019) but when the regulatory pressures were not very profound, normative and mimetic forces were found to be the important institutional drivers (Khan et al., 2021). However, a few other studies found either no significant effect of mimetic processes and coercive isomorphism from higher authorities and government on CSR behavior (Zuo et al., 2017) or lesser impact of normative and regulatory institutions on non- profit seeking CSR behaviour (Shnayder et al., 2016). Coercive and normative pressures drive the triple bottom line while mimetic pressures drive social and environmental sustainability but not economic sustainability (Famiyeh et al., 2021) Also, in the presence of strong normative pressure and regulatory pressure, CSR practices were found to be driven by the availability of slack financial resources (Doś&Pattarin, 2021). Few authors also identified government policy as the barrier to CSR (Q. Zhang et al., 2019).

National and Global Pressures

With the advent of time, the CSR was viewed in the light of the concerns that the businesses have about the *social and global issues* of their activities. Few studies found the impact of the degree of globalisation (Brown & Knudsen, 2015) , globalisation pressures(Chen & Hamilton, 2020; Dartey-Baah & Amoako, 2021; Yin, 2017) and global supply chains (D. Zhang et al., 2019) on CSR engagement of the organisations, while others found the impact of various economic, social and environmental factors (Cuervo-Cazurra, 2018; Dartey-Baah & Amoako, 2021; Marfo et al., 2016; Panda et al., 2019; Stjepcevic & Šikšnelytė Butkienė, 2017) and the level of infrastructural deficiencies (Cuervo-Cazurra, 2018) on CSR.

Institutional pressures, nations rule of law, financial development of the country and formation of human capital had a positive impact on CSR engagement in both developed and developing countries (Al-Mamun & Seamer, 2022)**.** International involvement and exposure(Inkpen& Ramaswamy, 2018)**,** Global CSR associations, internationalisation through M&As, presence in the West, multicultural experience in top management teams and state influence were found to influence global CSR integration (Miska et al., 2016)**.** Also, transnational pressure was identified as an important driver of environmental CSR but did not have any significant impact on social CSR (Chen & Hamilton, 2020).

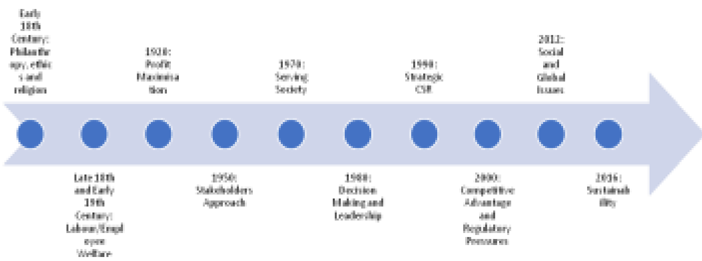
Sustainability

Recently, with the growing importance of sustainability it was also realised that the ultimate objective of the strategic CSR must be to create sustainable value and therefore, *sustainable value or sustainability* emerged as a crucial CSR driver.

Integration of ethics and sustainable development were found to be important subjective drivers of CSR(Agudo-Valiente et al., 2017) along with identified environmental concentration (Alizadeh, 2022) and environmental commitments(Latapí Agudelo et al., 2020). Few authors identified how the family involvement, industrial embeddedness and resource-based factors in a firm combine to achieve high Environmental Corporate Social Responsibility (ECSR)(Hu & Wang, 2021).

The presence of Sustainability committee was identified to be a crucial driver of the CSR performance(Govindan et al., 2021). Long-term orientation; relationship with stakeholders; corporate governance; family values and educational background; family involvement and firm size; community commitment; environment; and image and reputation were highlighted as the major determinants affecting the sustainability of the family firms (Broccardo et al., 2019) whereas sustainability reporting was identified to be a very influential factor for enhancing sustainability performance in the European energy sector (Wieczorek-Kosmala et al., 2021). However, few authors asserted that sustainability is negatively influenced by time and cost involved (Cantele & Zardini, 2020).

Figure 3: Timeline Showing the Evolution of the Drivers behind Corporate Social Responsibility



Source: *Compiled by the researcher from the existing literature*

IV. Conclusion

After thoroughly reviewing 101 research papers, it was observed that most of the studies focus on the drivers behind the CSR commitments. It was difficult to find any study that focuses on the drivers motivating companies to select a particular area of expenditure or the motives behind selection of any particular project by the companies. Although our study has contributed to the current research by identification of drivers behind CSR commitments in both developing and developed countries which have evolved over a period of time ranging from philanthropy to stakeholders' pressures to more recently, sustainability, there are still a multitude of avenues for future studies. For example, empirical study can be done to find out the motives behind selection of any particular project by the companies. At present, there are twelve broad areas of CSR expenditure as per schedule 7 of the companies' act. Empirical relationship could be developed to find out the drivers of each area of the Corporate Social Responsibility expenditure. Not only this, a comparative analysis of the drivers of Corporate Social Responsibility expenditure in public sector companies with that of private sector companies can also be done.

Last but not the least, since India has mandatory Corporate Social Responsibility, there exists a CSR committee also. The impact of various dimensions of CSR committee on the CSR expenditure can also be empirically studied in Indian context.

"Corporate social responsibility encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations at a given point in time" (Carroll 1991). There are many factors which stimulate businesses to pursue CSR strategies. A lot of researchers have identified the factors affecting Corporate Social Responsibility. Different researchers have different views on the driving forces of Corporate Social Responsibility. Some scholars attribute the CSR towards the internal factors like employee motivation, managerial values, ownership structure, etc. while others found external factors like reputation, regulatory pressures, community pressures, NGOs, media, etc. to be the major drivers of CSR. This paper attempts to review, systematically analyse and synthesize the literature on the drivers of CSR in a systematic manner. The study used a well-documented procedure suggested by Tranfield, Denyer and Smart (2003), which involved three stages i.e., planning, execution and reporting. In the light of the evolution of the CSR, ten stages of the CSR development were identified. The systematic literature review has been segregated according to these stages and it was shown how the CSR drivers changed from philanthropy to sustainability over a period of time. Although there are many factors driving CSR, managerial perceptions and values, top management commitments, presence of CSR/sustainability committee, branding, reputation management, stakeholders' pressure, competitive advantage, regulatory forces, were observed to be the major drivers of CSR.

The drivers behind the Corporate Social Responsibility commitments of a firm can be broadly categorized under the following categories-

Table 4- Broad Categories of CSR drivers

Economic Drivers	**Regulatory Drivers**	**Social Drivers**	**Ethical Drivers**	**CG Drivers**	**Political Drivers**	**Other Drivers**
Formal Strategic planning	Government	Stakeholders Pressure	Managerial Values	Females on board	Political Affiliation/Beliefs of employees	CEO Education
Intra organisational practices	Environmental Legislative Pressures	Institutional investors	Philanthropic drives	Board of directors	Political Connections	Managers
Organisational structure		Spirituality	Humanistic Culture	Investor Relations		Environmental Commitments

				Officers		
Competitive advantage		Family traditions and religions	Sustainability committee/ CSR committee	Code of conduct		
Risk management		Globalisation	Presence of CSR department	Demands from international governance organizations		
Corporate image/ Reputation/ Goodwill Enhancement		Normative and mimetic pressures		Supervisory board		
Branding		Industry pressure		CEO's personal incentives		
Finance		Community peers		Effective CSR communication		
Profitability		Institutional pressures/ drivers				
Macro-economic variables		Socially responsible investors				
Export level/ International Orientation		Investor sentiments				
Leverage		Market sentiments				
		Employee motivation				
		Employees' education and training on CSR				
		Employees' Diversity				

In the present study, it was observed that most of the studies focus on the drivers behind the CSR commitments rather than on the drivers motivating companies to select a particular area of expenditure or the motives behind selection of any particular project by the companies. Therefore, it is suggested that empirical study can be done to find out the motives behind selection of any particular project by the companies or to find out the drivers of each area of the Corporate Social Responsibility expenditure as future research avenues.

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DO LARGE CAP, MID CAP AND SMALL CAP FIRMS STOCK LIQUIDITY REACT TO MACROECONOMIC AND NON-MACROECONOMIC FACTORS ALIKE? A NEW INDIAN EXPERIENCE

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Purpose: *We investigate the impact of macroeconomic and non-macroeconomic factors on stock liquidity of large, mid and small (LMS) companies in India.*

Design/methodology/approach*: We use the panel quantile regression approach to investigate the objective. The monthly data from June 2010 to March 2022 are considered for the analysis. We consider exchange rate, interest rate and inflation as macroeconomic variables. In addition to macroeconomic variables, we include non-macroeconomic variables as proxied by economic policy uncertainty (EPU), geopolitical risk (GPR), volatility index (VIX), Nifty, foreign institutional investors (FII) and domestic institutional investors (DII). The stocks under NSE Large Cap100, NSE Mid Cap 100 and NSE Small Cap 100 Indices are included as dependent variables.*

Findings*: We find very interesting and useful findings. The impact of macroeconomic and non-macroeconomic factors on the stock liquidity is heterogenous across the large, mid and small cap companies in India.*

Originality/value*: Our results are useful for investors, portfolio managers and policymakers to take an informed investment decision.*

Keywords: *Macroeconomic, Non-Macroeconomic, Stock Liquidity, Quantile Regression, Panel Data, India*
JEL Classification Codes: *C31, G11, G12, G32, L25*

Stock turnover is a prominent research term in the field of stock market. In the stock market, it refers to the total number of shares that are traded within a specific period, usually a day, a week, or a month. It is a measure of the level of activity in the stock market and the liquidity of the shares being traded. A high share turnover indicates a high level of trading activity, which can be an indication of investor interest in the stock. On the other hand, a low share turnover can indicate a lack of interest in the stock or low liquidity, which can make it difficult to buy or sell shares. There are several factors which can increase or decrease the stock liquidity. Previous studies have emphasized the role of macroeconomic and non-macroeconomic factors in stock market liquidity (Ajina et al., 2015; Bhattacharya et al., 2019; Ding et al., 2017; Ekinci et al., 2019; Fernández-Amador et al., 2013; Flavia et al., 2007; Goyenko & Ukhov, 2009). They have adequately explored and shown the impact of macro and non-macroeconomic factors on liquidity of large companies. However, these studies have not explored the mid and the small companies.

In India, the liquidity of stocks can vary depending on their market capitalization, with large cap, mid cap, and small cap (hereinafter LMS) stocks all exhibiting different levels of liquidity. The large cap stocks are typically the most liquid stocks in the Indian market. These are stocks of large, well-established companies that have a market capitalization of over Rs. 20,000 crores. Because they are widely followed by analysts and have a large investor base, large cap stocks tend to have high trading volumes and a large number of buyers and sellers, which improves their liquidity. Further, the mid cap stocks are stocks of companies with a market capitalization between Rs. 5,000 crore and Rs. 20,000 crores. These stocks tend to have lower liquidity compared to large cap stocks, as they are followed by fewer analysts and have a smaller investor base. However, they can still offer good investment opportunities for investors who are willing to take on some additional risk. Moreover, the small cap stocks are stocks of companies with a market capitalization of less than Rs. 5,000 crores. These stocks tend to have the lowest liquidity of the three categories, as they are followed by very few analysts and have a smaller investor base. This can make it difficult to find buyers and sellers for these stocks, which can make them illiquid and volatile.

In this context, our paper addresses the following unanswered questions. 1) Do LMS stocks liquidity react to macroeconomic and non-macroeconomic factors alike? 2) Is there any symmetric or asymmetric dependence between the variables?

The above discussion motivated us to investigate the impact of macroeconomic and non-macroeconomic factors on stock turnover of LMS companies in India using quarterly data from June 2010 to March 2022 and panel quantile regression (QR).

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Our macroeconomic factors include exchange rates (ER), interest rate (less than 24 hours: call money/interbank rate) and inflation as proxied by Consumer Price Index (CPI), while for non-macroeconomic factors proxies are Economic Policy Uncertainty (EPU) index, Geopolitical Risk (GPR) index, the volatility index (VIX), Nifty index, Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII).

Our contribution to the existing literature is that to the best of found knowledge, this is the first investigation of the impact of macro and non-macroeconomic factors on mid cap and small cap stocks along with large cap stocks in India using the panel quantile regression methodology. We find that there is a complex and dynamic relationship of macroeconomic and non-macroeconomic factors with stock liquidity of LMS companies in India.

We study the impact of macroeconomic and non-macroeconomic factors on stock turnover of LMS companies for several reasons. First, the results can help investors and analysts understand the trends in the market and make more informed investment decisions. Second, the stock market can be volatile, and understanding the impact of macroeconomic factors on stock turnover can help investors mitigate risks and investors can develop strategies to minimize potential losses. Third, it can provide insights into the direction of the economy and help policymakers make better decisions. Fourth, this can help reduce market inefficiencies and ensure that stock prices accurately reflect the underlying economic fundamentals. Overall, studying the impact of macroeconomic factors on stock turnover in India can help investors, policymakers, and analysts make more informed decisions and contribute to a more efficient and stable stock market.

The rest of the paper is organised as follows. Section 2 highlights the review of relevant literature. Section 3 shows data material used for the study. Section 4 explains the QR methodology. Section 5 illustrates empirical results and discussion. Finally, section 6 gives the paper's conclusion.

I. Review of literature

There are several papers across globe that shows the influence of macroeconomic factors on stock turnover. (Igbinosa & Uhunmwangho, 2019) reveal that the macroeconomic variables significantly affect the liquidity in African markets using unbalanced panel data. (Rehman et al., 2016) find that the interest rate, inflation and foreign equity investment influence the liquidity. Further, the causality test results reveal that industrial production and foreign equity investment cause stock liquidity. (Fernández-Amador et al., 2013) reveal that the stock market liquidity in Germany, France and Italy go up due to an expansionary monetary policy of the European Central Bank. Further, the impact found is found to be more substantial on smaller stocks during January 1999 to December 2009. (Hvozdyk & Rustanov, 2016) investigate the impact of two events; tax announcement and tax introduction on the liquidity of Italian stocks. They found that the tax announcement has a positive and tax introduction has a negative impact on the market liquidity. (Smimou, 2014) finds the effects of stock market liquidity on economic growth in Canada. (Ekinci et al., 2019) analyse the influence of macroeconomic announcements in the United States on trading activity in Borsa Istanbul. They find the mixed effects of macroeconomic announcement on trading activity. (Lee & Wong, 2012) detect that the recent Chinese financial reforms have a substantial positive influence on liquidity. (Omran & Pointon, 2001) find a negative relationship between liquidity and inflation in Egyptian stock market using error correction mechanism. (Connolly & Stivers, 2005) study the impact of macroeconomic news on volatility clustering and trading volume. (Flavia et al., 2007) find a positive association between money supply 2 and liquidity measurement; negative association between inflation, interest rates and liquidity measurement in Amman Stock Exchange. (Bhattacharya et al., 2019) and (Naik et al., 2020) investigate the various dimensions of stock market liquidity in India.

Further, some researchers demonstrate the effects of non-macroeconomic factors on stock turnover. (Debata & Mahakud, 2018) find that the EPU has a moderate impact on stock market liquidity during normal conditions, whereas it has a substantial effect in times of financial crises. (Goyenko & Ukhov, 2009) notice the relationship between stock and treasury bond markets using Granger causality test. Similarly, (Chordia et al., 2005) find that stock and bond market liquidity and volatility are significantly correlated. (Ajina & Habib, 2017) detect that greater earnings management lower the market liquidity in French companies. (Chung & Chuwonganant, 2014) show that the US volatility index has a substantial impact on liquidity. (Cheng, 2007) find that firm size, ownership structure, information asymmetric, margin trading and individual stock liquidity significantly affect the liquidity in Taiwan Stock Exchange. (Jha et al., 2019) find that Google search queries have a positive effect on stock liquidity and trading activity in National Stock Exchange using two factor auto-regressive methodology.

There are a limited number of research work which investigates the impact of foreign investments on stock turnover. (Naik & Reddy, 2021) notice that foreign investment and gold prices have a negative impact on the liquidity of NIFTY 500 stocks in India using the Granger Causality, Vector Auto-Regressive Model, and Impulse Response Functions. (Ding et al., 2017) notice that the foreign investor participation has an impact on trade activities and price discovery in China. (Rhee & Wang, 2009) and (Wang & Wu, 2015) find that the future liquidity in Jakarta Stock Exchange is negatively influenced by the foreign holdings using Granger causality test. Similarly, (Prasanna & Bansal, 2014) and (Syamala et al., 2014) also find that FII has a negative effect on market liquidity in India. In contrast, the results of (Tayde & Nageswara Rao, 2011) and (Ajina et al.,

2015) reveal a positive effect of foreign investments on stock market liquidity.

(Ali et al., 2016) show a substantial positive association between stock liquidity and corporate governance quality in Australia. (Jun et al., 2003) find that the stock returns in 27 emerging economies are positively influenced by turnover ratio, trading value and the turnover-volatility multiple. (Ma et al., 2018) analyse how the market-wide liquidity affect the trading activity in China. Trading activity is more in up market than down market. The studies show a substantial influence of investor sentiment on liquidity. (Hu et al., 2019) find that the liquidity is significantly and positively influenced by the investor sentiment in China. Similarly, (Kumari, 2019) show that the investors sentiment has a substantial role in predicting the liquidity in India.

The above discussion reveals that the effects of macroeconomic and non-macroeconomic factors on the stock liquidity of LMS stocks in India was ignored in the previous studies.

Material

In this paper, we consider the monthly data from June 2010 to March 2022. The stocks under NSE Large Cap100, NSE Mid Cap 100 and NSE Small Cap 100 Indices are included. The selection of these indices relies on the fact that it presents the overall picture of the Indian stock market. We notice that the data of some companies are missing or few companies are not listed in the 2010 and therefore, we count 207 as final sample size. It includes 80, 67 and 60 companies from large, mid, and small caps respectively.

We consider exchange rate (expressed as US dollar to Indian rupee), interest rate and inflation as macroeconomic variables. The selection of these variables is supported by (Connolly & Stivers, 2005; Fernández-Amador et al., 2013; Flavia et al., 2007; Igbinosa & Uhunmwangho, 2019; Lee & Wong, 2012; Naik & Reddy, 2021). In addition to macroeconomic variables, we include non-macroeconomic variables as proxied by EPU, GPR, VIX, Nifty (index of NSE), FII and DII. The selection of non-macro variables is supported by (Ajina et al., 2015; Bhattacharya et al., 2019; Debata & Mahakud, 2018; Ding et al., 2017; Goyenko & Ukhov, 2009; Jun et al., 2003; Prasanna & Bansal, 2014).

We use the Prowess IQ CMIE database to collect the data of stock turnover. The data of all macroeconomic factors are obtained from the FRED database. The data of EPU and GPR are collected from the website policyuncertainty.com. Volatility index data are gathered from the website of nseindia.com and the data of various nifty indices are captured from the website of niftyindices.com. The data of FII and DII are collected from the website of money control.

II. Research Design and Methods

Panel quantile regression is a statistical technique that combines two commonly used methods, panel data analysis and quantile regression. Panel data analysis is used when data is collected over time from a group of individuals, firms, or countries, while quantile regression estimates the relationship between variables at different points in the distribution of the dependent variable. In panel quantile regression, the aim is to estimate the relationship between one or more independent variables and a specific quantile of the dependent variable in panel data. This allows researchers to examine how the relationship between the independent and dependent variables differs across different points in the distribution of the dependent variable, rather than just focusing on the mean relationship. The panel quantile regression model estimates the coefficients of the independent variables for different quantiles of the dependent variable using maximum likelihood estimation.

Therefore, we use panel quantile regression to investigate the impact of macroeconomic and non-macroeconomic factors on stock liquidity of LMS companies.

The panel quantile regression model with fixed effect is written as follows:

$$Q_{yij}(\tau | x_{ij}) = \alpha_i + x_{ij}^T \beta \tau \quad i=1,\ldots,m;\ j=1,\ldots,n \qquad 1)$$

In formula (1), α′s have a pure location shift impact on the conditional quantiles. The impact of the covariates x_{ij} are permitted to rely the quantile τ of interest. *i* is the index of individual and *j* is the index of time. m is the number of observations on the individual *i*. n is the number of observations on the time *t*.

The following is the basic regression model.

$$SL_{it} = \alpha_i + \beta_1 ER_{it} + \beta_2 CPI_{it} + \beta_3 IR_{it} + \beta_4 GPR_{it} + \beta_5 EPU_{it} + \beta_6 VIX_{it} + \beta_7 Nifty_{it} + \beta_8 Yield_{it} + \beta_9 FII_{it} + \beta_{10} DII_{it} + \mu_{it} \qquad 2)$$

where *i* =1, …N, *t*=1, …, T, N is the number of companies. T is the number of time. SL_{it} denotes the stock liquidity for company *i* at time *t*.

The results of the panel unit root tests presented in Table 1 shows that the variables are conclusively and consistently stationary at level.

Table: 1 Panel unit root tests for large cap

	ER	CPI	IR	GPR	EPU	VIX	Nifty
LLC	28.10	-43.43	-46.09	18.6508	-9.20788	-27.9964	-38.8102
IPS	-43.35	-54.63	-42.49	-22.3348	-59.4033	-53.2305	-44.8034
ADF	2114.58	2927.26	2054.74	839.390	3282.92	2824.02	2215.92
PP	4432.26	4793.95	4659.04	4678.22	1473.65	7745.22	4930.09
	FII	DII	Yield	Large Cap	Mid Cap	Small Cap	
LLC	-3.66	2.41	-6.79	51.59	14.87	4.59	
IPS	-21.57	-17.01	-35.36	-71.40	-61.63	-53.81	
ADF	801.846	594.83	1581.77	4165.75	3239.30	2616.52	
PP	2663.91	2018.49	3869.26	1515.32	1602.05	1916.81	

*** p<0.01, ** p<0.05

Table 2: QR estimates for large cap companies

	OLS	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
ER	0.889	0.295	0.643	0.845	0.714	0.408	0.206	-0.284	-0.232	2.589*
	(0.684)	(1.290)	(0.884)	(0.788)	(0.674)	(0.618)	(0.739)	(0.793)	(0.881)	(1.380)
CPI	3.176**	7.736***	7.287***	6.037***	4.968***	2.378**	3.057**	-0.314	-0.955	-4.606*
	(1.276)	(2.408)	(1.651)	(1.472)	(1.259)	(1.154)	(1.379)	(1.480)	(1.644)	(2.576)
IR	0.236	-0.469	0.119	0.241	0.223	0.293*	0.220	0.272	0.233	0.483
	(0.170)	(0.320)	(0.220)	(0.196)	(0.168)	(0.154)	(0.184)	(0.197)	(0.219)	(0.343)
GPR	-51.964***	-6.355	-24.815	-27.995*	-26.791**	-39.14***	-50.33***	-55.113***	-67.983***	-134.381***
	(12.854)	(24.248)	(16.627)	(14.820)	(12.678)	(11.625)	(13.892)	(14.901)	(16.554)	(25.943)
EPU	-0.075***	-0.132***	-0.099***	-0.104***	-0.111***	-0.101***	-0.099***	-0.106***	-0.088**	-0.041
	(0.027)	(0.050)	(0.035)	(0.031)	(0.026)	(0.024)	(0.029)	(0.031)	(0.034)	(0.054)
VIX	24.067***	36.919***	34.196***	30.545***	24.199***	17.094***	18.549***	19.663***	16.675***	7.815
	(4.087)	(7.710)	(5.287)	(4.712)	(4.031)	(3.696)	(4.417)	(4.738)	(5.263)	(8.249)
Nifty	-0.427	0.600	0.188	-0.043	-0.249	-0.292	-0.210	-0.890**	-1.157**	-1.172*
	(0.352)	(0.663)	(0.455)	(0.405)	(0.347)	(0.318)	(0.380)	(0.408)	(0.453)	(0.710)
Yield	1.187***	4.378***	2.621***	2.015***	2.061***	1.616***	2.037***	1.812***	1.122**	-1.581*
	(0.426)	(0.804)	(0.551)	(0.491)	(0.420)	(0.385)	(0.460)	(0.494)	(0.549)	(0.860)
FII	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.000**	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
DII	0.000**	0.001***	0.002***	0.001***	0.001**	0.000**	0.000	-0.000	-0.001**	-0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
α	7.104***	-114.83***	-70.51***	-41.56***	-18.62***	3.763*	24.065***	51.586***	82.784***	139.200***
	(2.393)	(4.513)	(3.095)	(2.759)	(2.360)	(2.164)	(2.586)	(2.774)	(3.081)	(4.829)

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 3: QR estimates for mid cap companies

	OLS	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
ER	1.606*	0.655	0.589	1.412	0.866	1.231	1.170	0.936	0.587	2.360
	(0.827)	(1.623)	(1.129)	(0.921)	(0.928)	(0.861)	(0.862)	(0.976)	(1.204)	(1.603)
CPI	-1.750	-0.817	-0.633	0.274	0.274	-0.553	-2.485	-4.122**	-4.035*	-0.139
	(1.544)	(3.029)	(2.108)	(1.719)	(1.731)	(1.607)	(1.608)	(1.821)	(2.247)	(2.991)
IR	-0.011	0.313	0.097	0.013	0.036	0.219	0.082	-0.076	-0.067	-0.145
	(0.205)	(0.402)	(0.280)	(0.228)	(0.230)	(0.213)	(0.214)	(0.242)	(0.298)	(0.397)
GPR	-15.160	36.483	20.824	10.199	12.824	-0.936	-22.404	-26.139	-35.536	-56.935*
	(15.514)	(30.433)	(21.184)	(17.271)	(17.397)	(16.145)	(16.162)	(18.297)	(22.578)	(30.060)
EPU	-0.030	-0.008	-0.044	-0.059	-0.038	-0.030	-0.032	-0.029	-0.002	0.053

	(0.032)	(0.064)	(0.044)	(0.036)	(0.036)	(0.034)	(0.034)	(0.038)	(0.047)	(0.063)
VIX	9.652*	20.211**	12.329*	12.175**	7.148	5.922	3.027	4.438	1.833	7.338
	(4.948)	(9.706)	(6.756)	(5.508)	(5.548)	(5.149)	(5.155)	(5.836)	(7.201)	(9.587)
Nifty	1.244***	2.845***	2.044***	1.626***	1.150**	0.880**	1.006**	0.876*	0.642	1.057
	(0.425)	(0.833)	(0.580)	(0.473)	(0.476)	(0.442)	(0.442)	(0.501)	(0.618)	(0.823)
Yield	0.728	3.513***	1.868***	1.328**	1.592***	1.257**	1.400***	1.182*	0.173	-2.037**
	(0.512)	(1.004)	(0.699)	(0.570)	(0.574)	(0.533)	(0.533)	(0.604)	(0.745)	(0.992)
FII	0.001***	0.002***	0.001***	0.001***	0.001***	0.001***	0.001***	0.000**	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
DII	0.001**	0.002***	0.001***	0.001***	0.001***	0.001**	0.000	-0.000	-0.000	-0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
α	1.838	-138.647***	-85.686***	-53.831***	-28.268***	-1.403	25.243***	53.469***	88.196***	140.458***
	(2.890)	(5.669)	(3.946)	(3.218)	(3.241)	(3.008)	(3.011)	(3.409)	(4.206)	(5.600)

See notes of Table 2

Table 4: QR estimates for small cap companies

	OLS	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
ER	0.534	0.408	0.633	-0.572	1.196	2.608**	0.535	0.014	-0.209	-0.774
	(0.982)	(1.823)	(1.391)	(1.106)	(1.045)	(1.066)	(1.084)	(1.223)	(1.385)	(2.240)
CPI	1.545	3.491	0.574	1.238	1.863	1.877	1.692	2.297	-0.153	0.585
	(1.833)	(3.402)	(2.597)	(2.064)	(1.950)	(1.989)	(2.023)	(2.283)	(2.584)	(4.181)
IR	-0.153	0.470	0.008	-0.094	-0.076	-0.049	-0.622**	-0.752**	-0.542	-0.480
	(0.243)	(0.451)	(0.344)	(0.273)	(0.258)	(0.263)	(0.268)	(0.302)	(0.342)	(0.554)
GPR	-38.422**	-41.013	-9.943	-0.091	-15.372	-13.873	-55.65***	-70.04***	-85.66***	-94.441**
	(18.372)	(34.096)	(26.021)	(20.679)	(19.541)	(19.935)	(20.277)	(22.877)	(25.896)	(41.897)
EPU	-0.006	0.026	-0.055	-0.039	-0.034	-0.047	0.007	0.032	0.045	0.020
	(0.039)	(0.071)	(0.055)	(0.043)	(0.041)	(0.042)	(0.042)	(0.048)	(0.054)	(0.088)
VIX	-16.53***	-10.454	-12.194	-9.951	-12.78**	-15.43**	-13.670**	-13.234*	-15.337*	-18.003
	(5.882)	(10.917)	(8.331)	(6.621)	(6.256)	(6.383)	(6.492)	(7.325)	(8.291)	(13.415)
Nifty	2.267***	2.897***	1.435**	1.460**	1.987***	2.254***	2.699***	2.638***	3.200***	2.990***
	(0.503)	(0.934)	(0.713)	(0.567)	(0.536)	(0.546)	(0.556)	(0.627)	(0.710)	(1.148)
Yield	0.550	-0.027	-0.569	-0.198	-0.228	-0.899	1.464**	2.127***	1.955**	0.191
	(0.603)	(1.119)	(0.854)	(0.679)	(0.641)	(0.654)	(0.665)	(0.751)	(0.850)	(1.375)
FII	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
DII	0.001***	0.002***	0.002***	0.002***	0.002***	0.001***	0.001***	0.001**	0.001**	0.001
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
α	2.849	-143.44***	-92.92***	-57.61***	-31.31***	-4.084	29.79***	60.42***	101.74***	161.64***
	(3.426)	(6.359)	(4.853)	(3.856)	(3.644)	(3.718)	(3.781)	(4.266)	(4.829)	(7.813)

See notes of Table 2

III. Results and discussion

Sensitivity of large cap stock liquidity to macro and non-macroeconomic factors

Table 2 compiles the results for large companies. The exchange rate, inflation, volatility, yield, FII and DII are the variables that positively affect the stock liquidity of large cap companies. It means that these variables increase the liquidity of large cap stocks. The exchange rate barely affects the liquidity of large cap stocks only at the end quantile. However, the OLS coefficient is insignificant. The reason may be that the large cap companies are well established and that is why they may be less sensitive to exchange rate. Further, the impact of inflation is substantial and positive for OLS and all the quantiles except 0.7 and 0.8. This result is plausible because inflation can lead to higher prices for goods and services, which can translate to higher profits for companies that produce and sell those goods and services. When companies are more profitable, their stocks can become more attractive to investors, leading to increased demand and liquidity. This finding is not consistent with (Flavia et al., 2007; Omran & Pointon, 2001) who show a negative effect of inflation on liquidity. We note that the liquidity of large cap stocks is significantly and positively influenced by the volatility. Similarly, the yield has a substantial positive effect on the liquidity for all the quantiles. The FII and DII have a positive and substantial impact for all the quantiles except 0.8 and 0.9 for FII and 0.6 and 0.7 for DII. Our results of FII are consistent with (Tayde & Nageswara Rao, 2011) and (Ajina et al., 2015) who reveal a positive effect of foreign investments on stock market liquidity. These results are plausible because FIIs and DIIs are large investors who bring substantial amounts of capital into the market. When they invest in large-cap stocks, they increase the demand for those stocks, which can lead to an increase in their liquidity.

We detect that liquidity has an inverse relationship with geopolitical risk and economic policy uncertainty because the sign of coefficients is negative. These factors have a substantial and negative impact on liquidity in OLS and across all the quantiles except 0.1 and 0.2 for geopolitical risk and 0.9 for economic policy uncertainty. Similarly, liquidity has less sensitivity to Nifty because we notice that the effect is significant and negative at the higher quantiles, whereas the impact is insignificant for the bottom and middle quantiles (including OLS) which indicate the asymmetric dependence, having bottom tail independence and higher tail dependence. There can be two plausible reasons for the negative impact of the Nifty on large cap stock liquidity. First, if the Nifty index is overvalued, it can lead to overvaluation of the large-cap stocks that make up the index. In this case, investors may be reluctant to invest in these stocks, leading to decreased demand and liquidity. Second, the Nifty index is heavily concentrated in a few sectors such as financial services, information technology, and energy. If these sectors are not performing well, it can lead to a decline in the performance of the Nifty index and a decrease in demand for the large-cap stocks in those sectors. Further, we find that interest rate is the only variable that does not affect the liquidity of large cap stocks.

Sensitivity of mid cap stock liquidity to macro and non-macroeconomic factors

Table 3 documents the output for the mid cap companies. We register that the exchange rate, inflation and geopolitical risk have a negligible influence on the liquidity of mid cap stocks. However, in the case of the exchange rate, only the OLS coefficient is significant and all the quantile estimates are insignificant. Furthermore, the stock liquidity of mid cap companies is not at all influenced by interest rate and economic policy uncertainty because all the quantile coefficients including OLS are insignificant. The possible explanation for economic policy uncertainty may be that mid cap stocks are more diversified than large cap stocks, which means that the impact of economic policy uncertainty on any one company may be less significant. Further, investors in mid cap stocks may be less sensitive to economic policy uncertainty could be due to a variety of factors, such as differences in investment objectives, risk tolerance, or investment horizons. We find an asymmetric and positive dependence between volatility and stock liquidity having bottom tail dependence and higher tail (and middle) independence. It is important note that the Nifty has a positive effect on the mid cap stocks, whereas the impact is negative on large cap stocks. The reasons of these findings may be that the Nifty index may increase the liquidity of mid-cap stocks due to their growth potential, the investment behaviour of index funds and ETFs, and market sentiment, while decreasing the liquidity of large-cap stocks due to the segmentation of the market, trading volumes, and investor behaviour during periods of market volatility. The Nifty and FII have a significant and positive effect for all the quantiles except end quantiles (0.8 and 0.9). It is important to note that the yield has a significant and positive impact for 0.1 to 0.7 and a substantial negative effect at the end quantile (0.9) however, the OLS shows no impact. DII has a considerable (positive and negative) effect on the mid cap stock liquidity.

Sensitivity of small cap stock liquidity to macro and non-macroeconomic factors

Table 4 presents the results for small companies. The exchange rate has a negligible positive impact on the small cap stock liquidity only in a single quantile. The small cap stock liquidity is highly sensitive to Nifty, FII and DII because these variables have a significant and positive impact across all the different quantiles (except 0.9 for DII). The yield has a considerable positive impact from 0.6 to 0.8 quantiles. However, the OLS indicates an insignificant effect.

Our next set of results reveals that interest rate, geopolitical risk and volatility have an inverse relationship with small cap stock liquidity. Interest rates barely influence the stock liquidity at 0.6 and 0.7 quantiles. The geopolitical risk has an asymmetric dependence because we find that the impact is significant at the higher quantiles and insignificant at the bottom quantiles. Similarly, the volatility influences the small cap stock liquidity at the OLS and 0.4 to 0.8 quantiles. We find that Inflation and economic policy uncertainty do not affect the small cap stock liquidity.

IV. Conclusion

We analyse the effects of macroeconomic and non-macroeconomic factors on the stock liquidity of large, mid and small companies using panel quantile regression. We find very interesting and useful findings. First, exchange rate barely affects the stock liquidity of LMS companies. Second, inflation has a significant impact on the large cap stock liquidity; a negligible impact on the mid cap stock liquidity and no impact on the small cap stock liquidity. Third, interest rate has no influence on the large and the mid cap stock liquidity and a negligible effect on small cap stock liquidity. Fourth, the geopolitical risk has a significant impact on the large cap stock liquidity; negligible on mid cap and a considerable on the small cap stock liquidity. Fifth, economic policy uncertainty has a significant negative impact on large cap stock liquidity and no effect on mid and small cap stock liquidity. Sixth, the volatility has a significant positive impact on large and mid cap stocks, whereas the effect is found to be negative on the small cap stocks. Seventh, the Nifty has a negative impact on the large cap stock liquidity, whereas it has a positive impact on the mid and small cap stocks liquidity. Eighth, all groups of companies are highly and positively sensitive to yield, FII and DII. In a nutshell, the impact of macroeconomic and non-macroeconomic factors on stock liquidity is heterogenous across the large, mid and small cap companies in India. In this context, it is important for investors to carefully consider the liquidity of a stock before investing in it, as this can have a significant impact on their ability to buy and sell the stock at a fair price.

Our results are significantly useful for investors and portfolio managers who want to make informed investment decisions and manage their portfolio risk for several reasons. Our results can help investors identify market trends, manage their portfolio risk, anticipate potential changes in the stock market and adjust their investment strategy accordingly. By incorporating our results into their investment strategy, investors can potentially generate higher returns or reduce risk, which can improve their overall investment performance.

Although this study covers the impact of domestic macro and non-macroeconomic variables on LMS companies, the impact of international factors on LMS companies in India can be the scope for future research.

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METAVERSE ENGAGEMENT: A CASE STUDY ON BRAND STRATEGIES AND OUTCOMES IN THE DIGITAL FRONTIER

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Imagine you're strolling through an immense digital plaza. Your avatar, a dapper-looking cat in a fedora (because why not?), roams past gleaming virtual storefronts. You pause to admire a bag, not for its brand but because it morphs its design based on your very mood. To your left, a customer tries on digital clothes, admiring their virtual reflection. Suddenly, an avatar zooms past you, test-driving a car that seems to be part racer, part dragon, leaping over virtual mountains. An enticing aroma draws you to a stall where you're offered a sample of a burger. While you can't physically taste it, a simulated environment ensures you experience its flavours. Far-fetched? Hardly. This isn't a scene from a sci-fi novel; this is the metaverse in full swing. Here, brands aren't just selling products; they're peddling dreams, emotions, and unparalleled experiences. In this realm, the lines between imagination and reality blur, and brands are pulling out all the stops to win this new-age consumer game. Let us examine how businesses are setting up shop in this brave new world. Are you strapped in? Or, better yet, are you logged in?

Keywords: *Metaverse; Digital Engagement; Brand Strategies; Immersive Experiences; Personalization Tactics*
JEL Classification: *M3, M1, O33*

From Billboards to the Metaverse

As we approach a transformational digital age, it's important to chart our path. The metaverse, a consequence of decades of digital growth, offers marketers unprecedented engagement and immersion.

The adaptive nature of advertising is apparent when tracing its trajectory. Billboards and print advertisements dominated the 20th century, gradually giving way to radio and TV spots (Osborne & Coleman, 2008). As the internet became more prevalent from the late 20th century into the early 21st century, brands began pivoting to digital advertising tactics, including strategies like search engine optimization (SEO), pay-per-click (PPC) advertising, and social media campaigns. The progression didn't stop there.

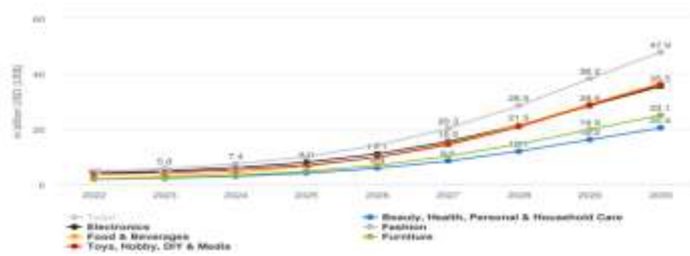
The introduction of augmented reality and virtual reality offered brands new avenues for immersion and user engagement (Jayaswal & Parida, 2023).

Metaverse Economics and the Magnetism of Immersive Branding

While it's easy to get lost in the allure of the metaverse, a glance at the numbers brings forth the magnitude of its potential. Estimated to ascend to a staggering $201.76 billion by 2030, the metaverse in eCommerce is poised for explosive growth (refer to Exhibit 1: Metaverse eCommerce - Market Size Worldwide).

Leading the charge are sectors like fashion and electronics, with projections soaring to $47.9 billion and $35.5 billion, respectively. The traction gained from avatar customization and immersive social experiences is evident as industries, from beauty and health to food & beverages, find their footing in this new realm. It's evident that we're merely scratching the surface of this digital revolution.

Exhibit 1: Metaverse E-Commerce - Market-Size Worldwide



Source: Statista Market Insights

So, what magnetizes brands to the metaverse? The answer lies in its unparalleled potential for immersion. While traditional digital marketing platforms allow for visual and aural interaction, the metaverse promises a multisensory experience (Giang Barrera & Shah, 2023). Consider the metaverse as an expansive digital playground where brands can interact with consumers without the constraints of physical reality.

Fashion labels can allow users to try outfits in fantastical settings. Automakers can provide test drives on Mars or through mythical forests. All these provide heightened user engagement, fostering stronger emotional connections with brands. What sets the metaverse apart is its constancy. Unlike the fleeting nature of traditional online ads, the metaverse accommodates brands in a more enduring manner. Imagine a digital storefront accessible round the clock, dynamically updating based on user interactions.

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Brand Spotlights

With the emergence of the metaverse as a new realm for brand interaction, several sectors are actively seeking to use its vast potential. The selection of brands for this study was meticulously curated based on their pioneering approaches, their innovative use of the metaverse, and their resonance with varying demographics. Critical insights were gleaned through extensive interviews with key personnel, ensuring a holistic understanding of each brand's strategic pivot into this new realm.

In the dynamic landscape of the metaverse, several brands have made pioneering moves. Brand A, a luxury fashion label, targeted younger, tech-savvy audiences with an exclusive digital collection, positioning themselves as digital fashion frontrunners. Brand B, a leading tech innovator, elevated their commitment by hosting a virtual tech expo, showcasing their latest innovations and visions. Similarly, Brand C, an FMCG giant, introduced a virtual culinary festival, allowing attendees to dive deep into flavours via interactive games and sensory simulations. On the tourism front, Brand D offered guided metaverse tours, letting users explore global destinations and cultures without leaving home. Brand E, a car manufacturer, ventured into the metaverse, presenting futuristic car models and virtual test drives, highlighting their dedication to innovation. Lastly, shopping underwent a transformation with Brand F's metaverse mall, where shoppers navigated virtual aisles and tried products using augmented reality

Strategies Employed

strategies employed by brands not only reflect their understanding of this new realm but also underscore their vision for the future of digital engagement. In the subsequent sections, we delve into a series of exemplary strategies, drawn from leading brands, each narrating a tale of foresight, innovation, and profound impact in the metaverse.

User Personalization & Customization:

Personalization has emerged as a paramount strategy for brands to create intimate connections with users. Brand A, a luxury fashion label, ingeniously harnesses this potential, curating bespoke experiences that mirror individual tastes. Not just limited to broad demographic information, their initiatives dive deep into the nuanced layers of a user's metaverse journey.

In 2022, Brand A seized the metaverse's potential, beginning with initial research and culminating in an exclusive digital fashion line for avatars by May. The collection's September launch drew over 100,000 users in its first week, validating their user-focused approach. Further tailoring their offerings in January 2023, they expanded the line to include a broader range of sizes and styles based on customer feedback, resulting in increased engagement. Exhibit 2 offers a detailed timeline of Brand A's strategic metaverse journey.

Brand A creates unique fashion items in the metaverse by analyzing past interactions and style preferences. These digital wearables symbolize users' unique virtual identities. Their Head of Digital Innovations emphasizes that in the expansive metaverse, they aim to make users feel distinctive. Each item isn't merely 'virtual fashion' but a reflection of their metaverse persona. Such deep customization has solidified Brand A's position in the digital domain, highlighting the significance of individual understanding in expansive virtual settings.

Exhibit 2: Timeline of Brand A's Strategic Steps Towards Metaverse Personalization

Source: Compiled by Author.

Cross-Platform Symbiosis:

The metaverse enhances, rather than replaces, existing digital ecosystems, emphasizing the need for seamless interoperability. Brand F melded its metaverse domain with its mobile app, allowing users to explore products virtually and then easily transition selections to their app's cart. Brand F's Digital Strategy Chief said, "The future is about interweaving digital experiences. We aimed to combine metaverse magic with familiar mobile convenience." This integration boosts user engagement and highlights the potential of merging digital realms.

Sustainability & Responsibility:

The metaverse's potential is vast, but its real-world environmental impact demands attention. Some brands, recognizing this, are integrating sustainability into their virtual strategies. Brand E, known for futuristic vehicles, extends its vision to championing a greener metaverse. They're investing in eco-friendly server infrastructure and optimizing energy use in virtual realms. Their corporate responsibility manager stated, "Our aim is a sustainable future, both in transportation and our digital presence in the metaverse." Such efforts not only enhance Brand E's image but emphasize the larger duty brands have in shaping a responsible metaverse.

Choosing the Ideal Digital Realm:

Choosing the Right Platform: For a winning metaverse approach, selecting the right platform is key. Brands must understand their audience and the platform's specialties. Brand D, a tourism agency, collaborated with VR experts to craft realistic virtual tours. Their Director stressed, "We aimed to merge virtual with reality to genuinely immerse users." Success hinges on aligning the platform with the brand's values and audience preferences.

Cultivating Virtual Kinship:

Brands see that beyond transactions, lasting value lies in forging deeper virtual connections. Brand C, a top FMCG brand, created a "Flavour Fest" in the metaverse. More than promoting products, it's a venue for users to share culinary experiences and partake in virtual cook-offs. Thus, the brand became a central character in a collective taste journey. Similarly, Brand D's "Digital Nomads Lounge" offers more than tours. It's a hub for virtual travelers to share tales, join cultural sessions, and co-plan metaverse adventures. Such steps highlight brands' emphasis on digital community, underscoring that in the metaverse, connection reigns supreme.

Tactics & Actions:

In the metaverse, a mere presence won't suffice. Brands need to craft immersive experiences that leave lasting digital impressions. For instance, Brand E, a leader in autos, redefined driving in the metaverse, letting users experience futuristic drives in surreal landscapes. The Head of Marketing stated, "Our vision transformed driving into an immersive journey in the metaverse." On the other hand, Brand F has reimagined e-commerce. Beyond typical online shopping, they offer dynamic virtual stores where users can try products in AR, tailored to their tastes, and receive AI-driven recommendations. The CEO of Brand F mentioned, "The metaverse made shopping an explorative adventure."

Results & Outcomes:

The metaverse offers a transformative space for brands to deeply engage with users and drive sales. Through our meticulous evaluation of the strategies employed by the highlighted brands, we discerned key results and outcomes, painting a comprehensive picture of the real-world implications of these virtual ventures.

Enhanced Engagement: Brand A witnessed a significant 30% surge in active user engagement, moving beyond passive interactions. This figure was derived from their quarterly user analytics, a combination of in-metaverse interaction metrics and external digital touchpoints, which especially highlighted the enthusiastic participation of the younger demographics aged 18-34. Brand A's personalization tactics, informed by user feedback and in-app surveys, resonated deeply with digital natives. A demographic that historically values individuality and personal touches, it was no surprise that the bespoke experiences offered by Brand A in the metaverse allowed users to feel like the "stars of their own stories." Recognizing the trend, Brand A invested in advanced tracking tools tailored for the metaverse, reflecting a broader industry trend where brands harness analytics for tailored experiences.

Sales Amplification: Brand F stands out for seamlessly blending metaverse innovation with traditional shopping, as confirmed by their Head of Analytics. This integration led to a notable 22% increase in sales. This growth wasn't just a fleeting trend; there was a consistent rise in sales over several months, highlighting the effectiveness and appeal of their immersive shopping models.

Brand Loyalty Augmentation: Brand C's 'Flavour Fest' hub responded to users' desire for communal experiences, as revealed by their digital footprints and feedback. As a result, Brand C transformed from a mere FMCG brand to a cherished community focal point. This approach led to increased brand advocacy online and reduced customer attrition.

Value-Driven Engagement Boost: Brand E, championing a sustainable metaverse, discovered through a commissioned study that 80% of their audience engaged more with brands reflecting their values. Thus, by integrating sustainability into their core, Brand E not only positioned itself as an industry pioneer but also harnessed the goodwill of an increasingly eco-conscious audience.

Interactive vs. Passive Engagement: In the metaverse, brands noted more interactive than passive engagement. Users actively participated, such as customizing virtual items for Brand A or joining cook-offs with Brand C. Such active involvement leaves a more enduring impression than simply viewing a product.

Duration and Depth of Engagement: According to the Head of Analytics at Brand D, users within their virtual tourism lounge spent, on average, 45 minutes per session. Remarkably, this is nearly twice the industry average for similar virtual experiences. More intriguingly, they often returned multiple times, indicating a deeper connection with the brand's offerings. This level of immersion offers brands the unique opportunity to create profound, lasting impressions, ultimately driving brand loyalty.

Challenges & Obstacles

Brands in the metaverse face challenges ranging from technical integration issues to unpredictable user behaviors in its dynamic landscape. Brand A faced challenges due to their metaverse platform's incompatibility with their e-commerce system and technological constraints limiting immersive experiences. Achieving hyper-realism might sometimes be at odds with current tech capabilities (Kullmann, 2014). Moreover, as brands immerse deeper, data security concerns intensify, especially with the increasing cyber threats (Di Pietro & Cresci, 2021). In essence, while the metaverse promises enhanced brand engagement, it presents challenges including tech integration and data protection.

Practical Implications

Practical Takeaways: In the metaverse landscape, personalization is paramount. Modern consumers crave tailored experiences, highlighting the importance of analytics. While the metaverse offers new marketing opportunities, blending them with traditional strategies can amplify results. Ethical narratives hold strong appeal. Brands should focus on values and utilize the metaverse to amplify their stories. Embracing community initiatives, fostering shared experiences, and interactive spaces can deepen brand loyalty. For a comprehensive overview of these lessons and their real-world applications, refer to Exhibit 3 for the detailed implications.

Exhibit 3: Key Lessons and Their Practical Implications for Metaverse Marketing

Lesson	Practical Implication
Personalization is Paramount	Invest in analytics & tools for tailored experiences
Blend Traditional with the New	Mix familiar elements with innovative metaverse features
Value-driven Narratives are Vital	Position around strong brand ethics/values
Community Building	Prioritize interactive hubs & communal experiences

Source: Author's analysis

Future Outlook and Conclusion

Brands, spurred by success, are expanding their metaverse presence with personalized avatars and potential permanent virtual stores, merging traditional e-commerce with virtual experiences. This evolution indicates a future where digital and physical intertwine, prioritizing meaningful connections. This case study underscores that when approached with strategy, insight, and creativity, the metaverse can truly revolutionize the way brands engage, inspire, and resonate with their audience.

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THE 22 IMMUTABLE LAWS OF MARKETING: VIOLATE AT YOUR OWN RISK

Author: Al Ries and Jack Trout
Publisher: Profile Books Limited (London)
Year of Publication: 2004
Price: Rs. 195

Sumit Saha* Divya ShilamkotiPreeti Hatibaruah***Anuj Kulkarni******

The book "The 22 Immutable Laws of Marketing" by Al Ries and Jack Trout offers valuable insights into the field of marketing. It presents fundamental principles that are crucial for success in the highly competitive business world.
The book explores key concepts such as the importance of being the first choice in consumers' minds, the idea that perception is often more important than reality, and the need to focus on specific market niches to achieve leadership. It also emphasizes the significance of consistency and warns against excessive diversification.

Summary of the Book:
The book starts with "**The law of Leadership**" which states that it is better to be first than to be better, for example The first rocket launched by India is Nike-Apache rocket. So this responsibility taken by Vikram Sarabhai and the team.
"The Law of category" defined as if there is one big company who have highest capture of market share then it will be difficult to compete those giant companies. Like, the IPhone mobile always brings some new specification, so that customer will get excited to know what is the "new", in this if other mobile company's do the same thing then customer won't show their interest to your products. The company which is producing the products on the basis of customer prospective then customers definitely recognise their product easily ("**the law of Mind**"). So this law is defined as a perception in a market or marketing. Like photocopies means xeorx. Once mind has fixed then we can't change a mind of customer. Having a simple easy-to-remember name helps get into prospect's minds.
"**The law of perceptions**" in marketing means that there is no objective reality or absolute truth. Instead, what matters the most are the perceptions and beliefs of customers buying the product or think of buying the product People generally believe that their perceptions regarding everything are always right and they end up buying the same product without caring about the factors like quality, price, etc of the product. In fact, what people believe about a product or brand plays a more important role rather than the actual qualities of the product.
By narrowing your focus, you can tailor your marketing messages and products to meet the specific needs and preferences of a particular group of consumers ("**the law of prospect's mind**"). The "Law of Focus" in marketing emphasizes the importance of concentrating your efforts on specific niches, differentiating your product or service, delivering clear messages, and selecting the most effective channels to reach your intended audience. This focused approach can lead to more successful marketing campaigns and better results.
The 6th law, "**The Law of Exclusivity**", states that two companies can't own the same word in a prospects mind. The book uses examples of several brands that are identified with one word. Volvo "safety", FedEx "overnight", Duracell "long lasting". When developing a brand, any company wants to create their own tagline or a word that customers identify with. If a company going to have a "word" there in the marketplace that everyone knows, then everywhere your customers hear or sees the business, you must say the same thing. **"The Law of ladder**" tells us about a company position in the market and in which rung in the ladder the company is playing it out. Any Company must understand their position first and competitors before anything they want to do as an "Ad Campaign", "Tag Line", and "Statements". The law states the primary marketing objective of any company, that being first into the prospect's mind is very important and that stays longer in the prospect's mindset. When it comes to prospects mind, always top 2 companies will come into picture when the customer wants the best, except top 2 companies, below companies can also make strategies to attract to customer due to the pricing offer and attractive designs, but when the customer gets educated in terms of quality, then it always come to TOP 2 companies in the prospect's mindset ("**the law of duality**").

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"**Law of division**" the 9th. law of this book, states that you must always have two or more categories to capture market. You cannot sell everything under one brand name you must have to bifurcate the category.

"**The law of the opposite**" states that not to compete with the market leader apart from competing make your product that is the alternative of that product. Always present as an alternative and think differently. As an example of the Coca cola that is 100-year-old company and the market leader in their segment. Pepsi introduced in 1965 but they never introduced them as a competitor to Coca Cola other than as an alternative to Coca Cola and leading the 2nd position in the market because of that. They focus on those who what an alternative of Coke like if old people are drinking the Coke Then Young generation will drink Pepsi.

"**Law of perspective**" defines that in business, short term sales make more profit related to long term because, customers like to purchase product's in sale rather than the regular basis price because of high price in regular basis, and in sale they find different discount's and offers. Sometimes sale also increases profit in short term, and to maintain volume they have to come with continuous sale.

"**The law of extension**" is a process where one day a company make focus only on one product that gives them large amount of profit then after they earn enough profit they want to extent the production on another many products, but because of focusing on other different products they started to lose money. Because when a company becomes successful, they want to focus on their future problems, and because of that, they started focus on another product which create confusion to the customer's.

You have to give up on something in order to get something, "**the law of sacrifice**" is the opposite of low of line extension. In order to successful today, u have to give up on something today, like Product line, Target market & Constant change. If you want to be successful, you have to reduce your product line.

"**The Law of Attributes**" is a key concept in marketing that emphasizes how products or brands should focus on owning specific qualities or attributes in the minds of consumers. This law suggests that to stand out in a crowded market, a product or brand should be closely associated with a unique and valuable trait.

It says that admitting both the good and not-so-good aspects of your product or service can build trust, it is all about being honest and open with customers ("**The Law of Candor**"). When a brand honestly talks about its strengths and weaknesses, customers feel like they're being treated with respect. The Law of Candor teaches that honesty creates a better connection with customers and helps in building a long-lasting and truthful relationship. This Law proves that "Honesty is the best policy".

"**The Law of Singularity**" in marketing is about being very unique and standing out. It says that by being one-of-a-kind and offering something different, a brand can get more attention and become memorable. This law suggests that businesses should avoid copying others and instead find a special quality or feature that makes them different. For example, if all the pizza places in town offer similar toppings, a pizza place that makes dessert pizzas could stand out.

Marketing plans based on what will happen in future are usually wrong. We can't predict the future but we can handle on trends, which is a way to take advantage of change ("**The Law of unpredictability**: Unless you write your competitors' plans, you can't predict the future"). We have to understand short-term marketing thinking and short-term financial thinking.

Ego is the enemy of successful marketing. When people become successful, they tend to become less objective, arrogant, failure (**Law of success**). They often substitute their own judgement for what the market wants. When a brand is successful it is not successful for the name it is successful because of the product and right marketing moves. Admitting a mistake and not doing anything about it is bad for your career. A better strategy is to recognize failure early and cut your losses (**Law of failure**). The situation is frequently the contrary of the way it appears in the press (**Law of Hype**). Successful programs aren't erected on fashions; they're erected on trends ("**the law of acceleration**"). A style is a surge in the ocean, a trend is a drift. A style gives a lot of hype while a trend gives veritably little. Speed thrills but kills' this saying applies nearly at every stage and situation of our life, business opinions included.

"**The Law of Resources**", 22nd. and final law of the book, says that "without acceptable backing, an idea will not get off the ground". The gist of the chapter is that marketing is veritably precious and you have to be prepared to spend big bucks on advertising if you want to be successful, so you are going to need a lot of backing from your Adventure Commercial It's thus veritably wise to plan well ahead and seek backing as and when necessary in order to gauge and reach the request before the big boys wake up.

Conclusion

Overall, "The 22 Immutable Laws of Marketing" is an insightful and thought-provoking book that provides valuable insights into the world of marketing. While some of the laws may seem obvious, the authors provide numerous real-world examples to illustrate their points and make their arguments more convincing. The book is written in a clear and accessible style and is suitable for both marketing professionals and anyone interested in the field. Highly recommended.

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Presents

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This radio is being run by the students and is providing an opportunity to develop programmes for community broadcast. The radio station is used by the college as laboratory for training students specializing in radio broadcast and they work in close coordination with community representatives and leaders. At present the radio broadcasts daily for eight hours with original programme of four hours in morning which is repeated in the afternoon. The students are encouraged to explore the needs of the society, thereafter, they conceive, design and broadcast their own programmes in a real life environment.

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