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RESEARCH PAPERS

- Predicting the Exit Intentions of Women Employees through their Working Preferences : *Sugandha Verma*
- Impact of Trust and Reviews on Online Purchase Intentions: A Study in the Context of COVID-19 : *Garima Gupta and Komal Singharia*
- Performance of the NVIX during High Market Volatility: The Case of India : *Harvinder Kaur*
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- Measuring Consumers' Attitude Towards Digital Marketing Communication: Examining the Antecedents and Consequences in India's Passenger Car Market : *Rekha Dahiya and Gayatri*
- Measuring the Service Quality of Public and Private Sector and Foreign Banks : *Rajesh Kumar, Rachna Srivastava and Sanjay Kumar Sinha*
- Quality of Work-life and its Influence on Employee Engagement: Evidence from the Selected Manufacturing Units in India : *Manisha Semwal, Atul Dhyani and Varsha PS*

NICE Journal of Business

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SHOBHIT DEEMED UNIVERSITY, MEERUT

Shobhit Institute of Engineering and Technology, notified by the Government of India as a Deemed-to-be University, under Section 3 of the University Grants Commission Act, 1956, was envisaged and inspired by Babu Vijendra Kumar *ji*, an eminent agriculturist and social worker from Gangoh (Saharanpur) of U.P. It is a NAAC-accredited University that seeks to attain high-quality teaching, applied research, and human values. The University seeks to go beyond the established standards for nurturing technocrats and prospective managers who have a global vision and insight in their chosen field.

SCHOOL OF BUSINESS STUDIES

School of Business Studies (SBS) is an integral part of Shobhit Deemed University, Meerut. It has inherited the academic legacy of the NICE Management College (established in 1995), and together with autonomy in curriculum-designing and flexibility for foreign collaboration, through academic exchange, credit-transfer mechanism, and increased institution-industry interface. It offers MBA programme with several specialisations, including marketing, finance, human resource management, and production and operations management. It also offers M.Phil. and Ph.D. programmes in management.

NICE JOURNAL OF BUSINESS

NICE Journal of Business is a half-yearly journal, earlier published by NICE Management College, Meerut, and now brought out by the School of Business Studies, Shobhit Deemed University, Meerut. It provides a platform to research scholars, practising managers, and academicians in business management, commerce, economics, and allied fields, to present their research findings and share their views and experiences.

The Journal aims at disseminating research output and providing information about recent developments in the relevant fields, by way of research articles, book reviews, Ph.D. thesis abstracts, case studies, and bibliographies, on topics related to business and allied areas. It is listed in *Cabell's Management Directory* (USA), and is included in EBSCO's Database and in Ulrich's *Directory of Periodicals*.

Original contributions received for publication in the Journal are subjected to a blind review, by experts in the relevant field.

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From the Editor's Desk

I am delighted to place before you the present issue of *NICE Journal of Business*. The journal provides a platform for researchers and scholars on business-related themes and topics. Each issue of the journal brings to you the latest and authoritative insights into the dynamic and fascinating world of business.

This issue contains research papers on topics of current interest in business and management. There are eight research papers reflecting diverse interests in the vast field of business. The research papers pertain to the major areas of marketing, finance, human resource management, and organisational behaviour. The deal with topics like, predicting the exit intentions of women employees, impact of trust and reviews on online purchase intentions, performance of the NVIX during the period of high market-volatility, influence of social media efficacy, perceived usefulness and ease of use on mobile app-based shopping, consumer attitudes towards digital marketing communications, measurement of service quality at public, private, and foreign banks, influence of quality of work-life on employee engagement in organizations.

The intention to exit an organisation, particularly among women employees, is a trending topic in human resource management research. In the opening paper, Dr. Sugandha Verma seeks to predict the exit intentions of women employees in commercial banks situated in Garhwal region of Uttarakhand state. The author seeks to do so by measuring their work preferences. Her study has revealed highly-significant preferences for the plains as against the hills and for the education sector, against other sectors of employment. She did it by contacting 600 women employees of commercial banks, using the criteria of job location and sector of employment, respectively. These preferences show very strong exit intentions of the women employees.

Dr. Garima Gupta and Ms. Komal Singharia examine the impact of trust and reviews in affecting online purchase intentions in the context of the crisis, induced by COVID-19 pandemic. Based on the findings that revealed the moderating impact of the pandemic in influencing the relationship between the reviews and intentions to purchase online, the authors provide useful suggestions for online marketers to operate effectively in the current challenging period and emerge stronger in the future.

Dr. Harvinder Kaur attempts to find a strong linear relationship between the NSE India VIX (NVIX) and the Nifty realized volatility during the period of November 2019 to October 2020, a period of high volatility during which the COVID-19 pandemic unfolded. This suggests that the NVIX can potentially be used as a reliable predictor of the future market volatility under different volatility conditions. Such a possibility holds immense potential for investors as well as the stock exchange administrations.

Dr. Komal Nagar seeks to develop an integrated model on the perceived employability of university students, based on their multi-tasking behaviour with the social media. The study validates multi-tasking self-efficacy, 'fear of missing

out' and the social media multi-tasking as predictors of students' perceived employability that can be used for future studies in behavioural psychology and education.

Dr. Neeru Kapoor and Mr. Chandan Kumar Singh in their study, seek to gain a deeper understanding of the phenomenon of consumers' mobile app-based shopping. They develop appropriate guidelines for marketers. They examine the role of demographic variables, perceived usefulness and the ease of use on mobile apps as the emerging shopping medium over the traditional brick-and-mortar shops.

Dr. Rekha and Dr. Gayatri seek to understand consumers' attitude towards digital marketing communication in India's passenger car market by examining its antecedents and consequences. The authors conducted a survey using a structured questionnaire, and collected data from 600 car buyers from Delhi. They concluded that digital media characteristics, product-specific communication, buyers' personal characteristics, and the potential outcome were the antecedents and the usage intentions and actual usage the consequences of consumers' attitude.

Dr. Rajesh Kumar, Dr. Rachna Srivastava and Prof. Sanjay Kumar Sinha examine the measures for improving the service quality in public, private and foreign banks. Their study was conducted in Delhi NCR area including four states of Haryana, Uttar Pradesh, Delhi and Rajasthan. The SERVQUAL scale was used to measure customers' perception and expectations based on a questionnaire. They found that foreign banks were performing better as compared to private and public-sector banks.

Dr. Manisha Semwal, Prof. Atul Dhyani and Dr. Varsha PS find, in their study, that there is a need to develop more meaningful work that will contribute to the commitment and a greater personal boost for employee engagement. Although several researchers have long recognised the importance of the quality of work-life, yet the influence of quality of work-life on employees' engagement is still under review. Their study focuses on the quality of work-life in the manufacturing sector and investigates the former's association with employee engagement.

I place on record my gratitude to the eminent scholars for their valuable contribution to the quality of *NICE Journal of Business*.

Many experts devoted their time and talent in reviewing the papers by making critical comments and suggestions for improving their quality. I am deeply indebted to all of them.

I express my deep sense of gratitude to Dr. Shobhit Kumar, Chairman, NICE Society; Kunwar Shekhar Vijendra, Chancellor, Shobhit University, and Prof. Amar P. Garg, Vice-Chancellor, of Shobhit Institute of Engineering and Technology (Shobhit Deemed University), Meerut, for their support to this academic endeavour intended to promote, preserve and disseminate business research. In fact, the journal was the brain-child of Kunwar Shekhar *ji*, when it was launched in early 2006. Since the inception, he has taken keen interest in the growth of the journal.

D. P. S. Verma
Editor

PREDICTING THE EXIT INTENTIONS OF WOMEN EMPLOYEES THROUGH THEIR WORKING PREFERENCES

A Study in Selected Banks

Sugandha Verma

Abstract

Purpose: *This study attempts to predict the exit intentions of women employees serving in the banking sector in the Garhwal region of Uttarakhand. This is sought to done on the basis of their working preferences.*

Design/ methodology/ approach: *The study used a sample of 600 women employees. Cluster area randomised sampling on the proportionate basis was applied to choose the respondents from Dehradun, Haridwar and Pauri Garhwal districts of Uttarakhand State. Exit intentions were predicted through working preferences concerning job location and sector of employment. As the data were nominal in nature, mainly the Chi-square test and some other statistical and graphical techniques were employed to analyse the data and to derive the results.*

Findings: *Highly-significant preferences for the plains and the education sector were identified regarding the twin criteria of job location and the sector of employment, respectively. These preferences showed strong exit intentions of women employees.*

Practical Limitations: *The study was confined to the sample collected from only three districts of Uttarakhand, so that the results cannot be generalised and may not represent the perspectives of women employees of commercial banks of the country.*

Implications: *The study has various valuable implications for the vibrant and dynamic field of human resource management. The findings suggest that women employees' working preferences should be kept in view while allocating to them the place of working so as to retain them in employment.*

Originality/Value: *One of the perceived gap is the lack of gender-specific studies regarding the prediction of exit intentions. This study seeks to get some insights into the exit intentions of female bank employees through identifying their working preferences.*

Key words: *Exit intentions, Working preferences, Women employees, Commercial banks, Garhwal region*

INTRODUCTION

Human resource development (HRD) has been at the core of modern literature in various streams of social sciences. The growth and development of human resource (HR) depends upon several determinants across the globe. The reforms and policies for the welfare of workforce, both inside and outside the organisation, are considered to be relevant by the employers. But, the term 'career' is the new emerging concept, which determines the overall success rate of a vocationally-active person. Career is transforming conceptually from the traditional hierarchical, linear, uni-dimensional, and structured form to that which is more self-managed, transitional, multi-focused, and boundary-less (Bozionelos, 2001; Harvey and Novicevic, 2006). Changes in career characteristics and shifts in personal work values throughout one's career (Hall, 1996; Patton and McMahon, 1999; Smola and Sutton, 2002) compel employers and workers to be continuously attentive to changing work requirements, new areas of skill development, and personal working preferences. Now-a-days, the employers are getting interested in understanding employees' working preferences (Konrad *et al.*, 2000), so as to gain insight about what motivates their workers, and create work environments that will enable their employees to be more productive over the time.

Moreover, exit intentions are also important to be addressed because the quits and exits of workforce can severely affect the organisations, directly or indirectly, leading to enhanced training and hiring costs, lower amount of profits and the overall reduced employee morale (Hayward *et al.*, 2016). With reference to predicting the exit intentions, working preferences significantly influence and assist in shaping better career paths for individuals. More importantly, men and women follow different career paths. To a man, his job is always important. However, for a woman, her family is the first priority and her employment is the second. Therefore, given these changing contexts and continuing challenge to learn what motivates women on the job, this study remains timely and attempts to predict the exit intentions in the light of the working preferences of women employees serving the banking units of the Garhwal region of Uttarakhand state.

This paper comprises six sections. The introductory section presents the linkage between the working preferences and exit intentions. The second section

contains a review of the existing literature on the subject and brings out the relevant knowledge gap to the front. The third and fourth sections denote the objectives and research methodology, respectively. The fifth section reports the derived results and findings. At last, the sixth section concludes the paper and states the implications of the study.

REVIEW OF LITERATURE

Major relevant studies are reviewed in the coming paragraphs.

Studies on Exit Intentions

According to Mobley *et al.*, 1978, the exit intention refers to the probability that an employee will leave an organisation. Smith, Carson and Alexander (1984) found an affirmative relation between the leadership effectiveness, job performance and the organisational performance. Moreover, the leader's behaviour determines the organisational productivity. The leader's behaviour guides the other employees toward the objective and mission of the organisation. Experts feel that the overall corporate culture of an organisation affects the employee exit as well. However, the most important issue here is the trust in and respect for the management team (Cotton & Tuttle, 1986). If the organisations appreciate the employees, treat them with respect, and provide proper compensation, benefits, and perks that demonstrate respect and caring, they will definitely stay in the organisation. In other words, employees appreciate a workplace in which communication is transparent, the management is accessible, executives are approachable and respected, and the direction is clear and understood (Campion, 1991).

In addition, Dailey and Kirk (1992) observed that a lack of recognition is one of the significant factors that may contribute to employee exit. Organisations must provide a lot of genuine appreciation and recognition as icing on the cake for employee retention. Otherwise, there is a probability that the employees tend to leave.

Michal, Nissly and Levin (2001) applied the economic model to predict the labour exit in the market. They found that some socio-economic factors, such as the economic development level, condition of labour market, employment structure, job opportunities, property enterprise, transport and

communication, accommodation, education and medical facilities, living cost, quality of life and so on, all have an influence on the intention of employee exit. Ma, Chen and Wang (2003) concluded that young employees with lower level of work experience and higher level of education tend to have negative attitude for the organisation and, with the time, develop lower level of job satisfaction and organisational commitment.

Furthermore, Trevino, Brown and Hartman (2003) emphasised that the direct relationship between the leader's behaviour, job satisfaction and organisational commitment, influence the employees' intention to leave or stay. The supervisor's behaviour at workplace determines the behaviour of employees to a great extent. Zhao, Liu and Zhang (2003) found, in their empirical study, that if a person bears more familial responsibilities, there might be lesser possibility of his/her exit. Liu and Wang (2006) noted the age, gender, marriage, education levels and years of working in organisations as the reasons for the employees' exit intentions. They also found a higher rate of actual female employees' exit as compared to the male employees. In another study, by Simon and Kristian (2007), job satisfaction was identified as one of the significant predictors of exit intention.

Another relevant organisational factor that impacts exit intention of employees is the compensation. Compensation includes all forms of pay, reward, bonus, commission, benefits, medical insurance, etc. Monetary compensation is viewed as an important variable that determines employees' intention to stay or quit. Popoola and Ayeni (2007) observed that in order to retain capable workforce, the organisations must recognise the compensation and reward mechanism as the chief motivator. Particularly, the so-called millennial, the younger generation, is supposed to be very money-minded, which results in switching from one job to the other for a few extra benefits (Ballout, 2009). Zeynep and Robert (2008) observed that the workforce exit is a situation wherein employees leave the organisation and this, in turn, causes increased overall expenditure and reduced level of productivity and abilities that negatively affects the entire organisation.

Pearce and Mawson (2009) observed that the low extent of training in the organisation leads to poor job performance and a higher rate of employee exit. On the other hand, some organisations, which provide appropriate training to their employees'

learning and skill development, achieve the high ratio of success and helps minimise the extent of employee exit. Therefore, the employees might have greater commitment to their job and full encouragement to stay in the organisation.

According to some researchers, traditional management theories gave emphasis on the importance of promotional opportunities and the probable growth for improving the employees' performance. For example, Stahl *et al.*, (2009) observed that the perceived career prospects outside the organisation and the absence of career growth opportunities inside the organisation enhance the employees' intention to quit the present organisation. Researchers also observed that exit intentions are positively correlated to the voluntary exit (*e.g.*, Hancock *et al.*, 2013) that makes this topic more essential to be considered by the managers so that these highly-rated exits can be prevented at the earliest (Hayward *et al.*, 2016). Moreover, scholars also observed various causes and aspects that can contribute to a person's enhanced consideration to leave an organisation, such as the job embeddedness (Ko and Kim, 2016) and the job satisfaction (Yu and Kang, 2016).

Furthermore, the person-organisation fit was also discussed by some researchers. For instance, Word and Park (2015) found that the person-organisation fit is essential for an organisation to succeed. They also defined the person-organisation fit as when the person is right and suitable for the job on the basis of his / her personal values, skills and capabilities. Another researcher observed that the person-organisation fit increased an employee's satisfaction, involvement and commitment to the job. Further, Chhabra (2015) noted that the person-organisation fit decreased the employee's exit intentions. Similarly, Schmitt *et al.* (2015) observed that the employees with a higher amount of the person-organisation fit experienced lesser exhaustion. Mamun and Hasan (2017) noted some certain factors impacting the employee exit, such as the working environment, pay, fringe benefits, career promotion, job-fit, clear job expectations, perceived alternative employment opportunities, and the organisational culture. They further argued that sound retention strategies might be useful for retention of the capable workforce and minimising the exit rate among the employees. In fact, it would lead towards organisational engagement and job satisfaction.

Studies on Working Preferences

The term, 'working preference,' is not a rigidly-defined psychological construct. It includes overlapping constructs related to motivation (Amabile *et al.*, 1994), interests (Barrick *et al.*, 2003; Holland, 1997), work values (Rounds and Armstrong, 2005), job attributes (Konrad *et al.*, 2000), and practical work-related considerations (Dowd, 2006).

Working preferences also influence shorter-term career-choice decisions (Brown, 1996, pp. 337-372). These preferences are found to be related to job satisfaction (Rounds *et al.*, 1987) and can be used to highlight the person-to-work environment-fit. Career-related assessment tools provide scientifically-based insight about the suitability of individuals for specific types of work (Simons *et al.*, 2000). These tools tend to focus on specific areas of psychology, such as abilities, aptitudes, interests, personality, values, motivation, learning styles, and temperament. Although they are associated with different fields of psychology, they are both similar and different from one another (Niles and Harris-Bowlsbey, 2002, p. 65); they are not mutually exclusive. In the past, many studies have approached the person-environment fit from a single aspect of the work environment (Jansen and Kristof-Brown, 2006), wherein the reality the individual responds and reacts to multiple dimensions of the environment, which warrant assessment. Previous investigations also showed that working preferences are critical determinants of job attitudes and work motivation (Brenner *et al.*, 1988) and influence career-choice decisions (Brown, 1996). Researchers recommend that working preferences should be used to aid the understanding of individuals engaged in different types of career-related environments (Judge and Ferris, 1992; Kristof-Brown *et al.*, 2005; Werbel and Gilliland, 1999).

Moreover, working preferences from gender perspectives also contribute a lot in developing the knowledge on this crucial issue. Many preference-oriented differences between men and women that were believed to be fixed, and probably innate (Maccoby & Jacklin, 1974), have been shown to be socially-constructed and artificial. In most of the incidences, once women gained access to higher education after the equal-opportunities revolution, sex differences in cognitive abilities started to disappear. Scholars confirmed that females regularly outperform males in educational qualifications obtained at secondary school level,

especially during compulsory schooling (Ginn *et al.*, 1996). Sex differences in verbal, mathematical and spatial abilities have now shrunk to small and insignificant levels (Hyde, 1996). Moreover, researchers showed that women bring distinctively-feminine approaches to management jobs. Female managers differ from male managers in their personal characteristics and family lives, but not in the way that they do the job. Previous investigations also confirmed that men and women continue to differ in their work orientations and labour market behaviour, and that these differences are linked to broader differences in life goals, the relative importance of competitiveness versus consensus seeking values and the relative importance of family life and careers (Hakim, 2003).

Research Gap

After revisiting the available literature, it is interesting to note that gender-specific studies are almost absent with reference to studying the working preferences of human resources. Women issues are not addressed adequately, which results in the lesser policy formation for the female workforce. The recently identified concerns about exit intentions and working preferences include the need for a micro-level empirical study. Thus, various issues relating to working women in the Indian context represent this research gap.

Significance and Originality of the Study

Employee exit may cause various negative consequences for the organisations and individuals. Therefore, this paper tries to give some insights about the exit intentions of female bank employees through identifying their working preferences. The study has various useful implications for the vibrant and dynamic field of human resource management (HRM).

OBJECTIVES OF THE STUDY

The study has the following objectives:

1. To identify the working preferences of women employees; and
2. To assess the exit intentions of women employees on the basis of their working preferences.

RESEARCH METHODOLOGY

The section of research methodology contains the crux of the primary data collected for the study. Moreover, the working preferences are identified with reference to the job location and the sector of employment. The aspect of job location is based upon the geographical status, such as plains, hills, and 'anywhere'. However, the employment sectors have been classified into banking, education, healthcare, and 'others'.

The Data

The secondary data were obtained from various books, journals and websites. The primary data were collected from the sample of 600 female bank employees and the questionnaire was self-administered by the researcher.

The Variables

For the purpose of analyses, working preferences were taken as test variables and three districts were the grouping variables. As the data on both the sides were nominal in nature, primarily the Chi-square test (χ^2 test) and certain other statistical techniques were applied.

The Sample

A sample of 600 women employees working in the bank branches was gathered from three districts of Garhwal region, namely, Dehradun, Haridwar and Pauri Garhwal. Cluster area randomised sampling on proportionate basis was applied for the same. The data collected through questionnaire were also classified according to some demographic features of women employees in the banks. The sample profile is shown in **Table 1**.

Table 1: Description of the Sample

Demographic Variable	Fractions	Frequency	Percent
Age	Up to 30 years	308	51.3
	31-40 years	189	31.5
	41-50 years	79	13.2
	51 years and above	24	4.0
	Total	600	100.0
Marital Status	Unmarried	155	25.8
	Married	352	58.7
	Widow or Divorcee	93	15.5
	Total	600	100.0
Type of Family	Nuclear	467	77.8
	Joint	133	22.2
	Total	600	100.0
No. of Dependents	None	40	6.7
	1-3	147	24.5
	4-6	294	49.0
	7 and above	119	19.8
	Total	600	100.0
Job Experience	Up to 5 years	232	38.7
	6-10 years	191	31.8
	11-20 years	99	16.5
	21-30 years	65	10.8
	31 years and above	13	2.2
Total	600	100.0	

RESULTS AND FINDINGS

This section gives the results and findings under two categories:

1. Identification of the working preferences of women employees; and
2. Assessment of the differences among working preferences of women employees' for predicting the exit intentions.

Identification of the Working Preferences of Women Employees'

The working preferences of women employees' as per the job location are presented in **Table 2**.

Table 2: Women Employees' Working Preferences about Job Location

District	Job Location			Total
	Plains	Hills	Anywhere	
Dehradun	268 (44.7)	12 (2.0)	58 (9.7)	338 (56.3)
Haridwar	118 (19.7)	7 (1.2)	33 (5.5)	158 (26.3)
Pauri Garhwal	36 (6.0)	25 (4.2)	43 (7.2)	104 (17.3)
Total	422 (70.3)	44 (7.3)	134 (22.3)	600 (100.0)

Note: Percentage figures are shown in parentheses

In the table, job locations are categorised as plains, hills and 'anywhere'. The results indicate the highest preference (70.3 percent) for plain areas.

Thereafter, the working preferences of the sample respondents have been identified with respect to the employment sector and results are shown in **Table 3**.

Table 3: Women Employees Working Preferences about Employment Sector

District	Sector				Total
	Banking	Education	Healthcare	Other	
Dehradun	139 (23.2)	173 (28.8)	7 (1.2)	19 (3.2)	338 (56.3)
Haridwar	48 (8.0)	92 (15.3)	8 (1.3)	10 (1.7)	158 (26.3)
Pauri Garhwal	32 (5.3)	52 (8.7)	15 (2.5)	5 (0.8)	104 (17.3)
Total	219 (36.5)	317 (52.8)	30 (5.0)	34 (5.7)	600 (100.0)

Note: Percentage figures are shown in parentheses

The results shown in the table present a higher preference (52.8 percent) of women employees towards the education sector.

Assessment of Differences among Working Preferences for Predicting the Exit Intentions

The differences among the working preferences are tested through null hypotheses against the χ^2 test

(Chi-square test).

H_{01} : There is no significant difference among the women employees' working preferences on the basis of job location.

The cross-figures about the districts and job locations are shown in **Table 4**.

Table 4: Cross-figures for Women Employees' Preferences for Districts and Job Location

District		Job Location			Total
		Plains	Hills	Anywhere	
Dehradun	Count	268	12	58	338
	Expected Count	237.7	24.8	75.5	338.0
	% within District	79.3%	3.6%	17.2%	100.0%
	% within Job Location	63.5%	27.3%	43.3%	56.3%
	% of Total	44.7%	2.0%	9.7%	56.3%
	Std. Residual	2.0	-2.6	-2.0	
Haridwar	Count	118	7	33	158
	Expected Count	111.1	11.6	35.3	158.0
	% within District	74.7%	4.4%	20.9%	100.0%
	% within Job Location	28.0%	15.9%	24.6%	26.3%
	% of Total	19.7%	1.2%	5.5%	26.3%
	Std. Residual	0.7	-1.3	-0.4	
Pauri Garhwal	Count	36	25	43	104
	Expected Count	73.1	7.6	23.2	104.0
	% within District	34.6%	24.0%	41.3%	100.0%
	% within Job Location	8.5%	56.8%	32.1%	17.3%
	% of Total	6.0%	4.2%	7.2%	17.3%
	Std. Residual	-4.3	6.3	4.1	
Total	Count	422	44	134	600
	Expected Count	422.0	44.0	134.0	600.0
	% within District	70.3%	7.3%	22.3%	100.0%
	% within Job Location	100.0%	100.0%	100.0%	100.0%
	% of Total	70.3%	7.3%	22.3%	100.0%

The figures of count, expected count, percentages and standard residuals, either positive or negative, are shown in the table.

The results of the chi-square test are summarised in **Table 5**.

Table 5: Chi-square Results

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	92.165 ^a	4	0.000	0.000 ^b	0.000	
Likelihood Ratio	80.241	4	0.000	0.000 ^b	0.000	
Fisher's Exact Test	80.010			0.000 ^b	0.000	
Linear-by-Linear Association	44.796 ^c	1	0.000	0.000 ^b	0.000	0.000 ^b
N of Valid Cases	600					

Note: a. 0 cells (0%) have expected count less than 5. The minimum expected count is 7.63.

b. Based on 10000 sampled tables with starting seed 2000000.

c. The standardized statistic is 6.693

The value of Pearson chi-square is found to be 92.165 at four degree of freedom in the table. Asymptotic and exact significance, both criteria, have the highly significant values ($p < 0.05$) on each side. In addition, highly significant values are also noted for likelihood ratio as 80.241, Fisher's

exact test as 80.010 and linear by linear association as 44.796.a

The results of symmetry-based measures are given in **Table 6**.

Table 6: Symmetric Measures

	Value	Approx. Sig.	Exact Sig.
Nominal by Nominal Phi	0.392	0.000	0.000 ^c
	Cramer's V	0.577	0.000
	Contingency Coefficient	0.365	0.000
N of Valid Cases	600		

c. Based on 10000 sampled tables with starting seed 2000000

A highly-significant value ($p < 0.05$) of Cramer's V is observed as 0.577 in the table. This value of Cramer's V denotes a strong effect among the working preferences regarding job location (Field, 2009). However, the Phi value is not important to be noted, as it has the usage only in the case of 2 by 2 contingency tables (Field, 2009). Furthermore, a highly significant status ($p < 0.05$) is also found for the value of contingency coefficient as 0.365. Thus, a highly significant value of Pearson chi-square denies the first null hypothesis (H_{01}), which concludes the strong differences regarding working preferences based upon the job location. Most importantly, with the application of the χ^2 test, the plain areas are noted as the most preferred location

for the job. Therefore, strong exit intentions of the respondents are observed on the ground of job location.

Moving ahead, the second null hypothesis checks the working preferences on the basis of employment sector.

H_{02} : There is no significant difference among the women employees' working preferences on the basis of employment sector.

The results of the χ^2 test for the second null hypothesis contain the cross-figures about districts and sectors of employment. These are shown in **Table 7**.

Table 7: Cross-figures for Women Employees' Preference for Districts and Employment Sectors

District		Sector				Total
		Banking	Education	Healthcare	Other	
Dehradun	Count	139	173	7	19	338
	Expected Count	123.4	178.6	16.9	19.2	338.0
	% within District	41.1%	51.2%	2.1%	5.6%	100.0%
	% within Sector	63.5%	54.6%	23.3%	55.9%	56.3%
	% of Total	23.2%	28.8%	1.2%	3.2%	56.3%
	Std. Residual	1.4	-.4	-2.4	0.0	
Haridwar	Count	48	92	8	10	158
	Expected Count	57.7	83.5	7.9	9.0	158.0
	% within District	30.4%	58.2%	5.1%	6.3%	100.0%
	% within Sector	21.9%	29.0%	26.7%	29.4%	26.3%
	% of Total	8.0%	15.3%	1.3%	1.7%	26.3%
	Std. Residual	-1.3	0.9	0.0	0.3	
Pauri Garhwal	Count	32	52	15	5	104
	Expected Count	38.0	54.9	5.2	5.9	104.0
	% within District	30.8%	50.0%	14.4%	4.8%	100.0%
	% within Sector	14.6%	16.4%	50.0%	14.7%	17.3%
	% of Total	5.3%	8.7%	2.5%	0.8%	17.3%
	Std. Residual	-1.0	-0.4	4.3	-0.4	
Total	Count	219	317	30	34	600
	Expected Count	219.0	317.0	30.0	34.0	600.0
	% within District	36.5%	52.8%	5.0%	5.7%	100.0%
	% within Sector	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	36.5%	52.8%	5.0%	5.7%	100.0%

The results of count, expected count, percentages and values of standardised residuals are provided in the table. The positive and negative values of standardised residuals denote the difference between actual and expected frequencies.

Then, the results of chi-square test with respect to the testing of second null hypothesis (H_{02}) are given in **Table 8**.

Table 8: Chi-square Results

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	30.269 ^a	6	0.000	0.000 ^b	0.000	
Likelihood Ratio	25.695	6	0.000	0.000 ^b	0.000	
Fisher's Exact Test	25.715			0.000 ^b	0.000	
Linear-by-Linear Association	7.506 ^c	1	0.006	0.006 ^b	0.003	0.005 ^b
N of Valid Cases	600					

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.20.

b. Based on 10000 sampled tables with starting seed 2000000.

c. The standardized statistic is 2.740

It is noticed from the table that Pearson chi-square's value, 30.269, is highly significant at six degree of freedom. Additionally, the values of asymptotic and exact significance are found highly significant ($p < 0.05$) as well. Moreover, the highly-significant values of likelihood ratio, Fisher's exact test, and

linear-by-linear association confirm these results with the values being 25.695, 25.715 and 7.506, respectively.

The symmetric measures results are shown in **Table 9**.

Table 9: Symmetric Measures

	Value	Approx. Sig.	Exact Sig.
Nominal by Nominal			
Phi	0.225	0.000	0.000 ^e
Cramer's V	0.459	0.000	0.000 ^e
Contingency Coefficient	0.219	0.000	0.000 ^e
N of Valid Cases	600		

c. Based on 10000 sampled tables with starting seed 2000000

The value of Cramer's V is found to be highly significant ($p < 0.05$), as shown in the table. This value, 0.459, reveals a strong effect among the working preferences about the employment sectors (Field, 2009). Furthermore, the contingency coefficient, 0.219, is noted to be highly significant ($p < 0.05$) as well. Finally, being a highly significant value of Pearson chi-square, the second null hypothesis (H_{02}) is rejected, which suggests strong differences among the working preferences on the basis of employment sector as reported by the women employees of three select districts. Moreover, these results validate a very high preference for the education sector, followed by the banking sector. Thus, running of the χ^2 test concludes stronger exit intentions of women employees' about the sector of employment.

CONCLUSION AND IMPLICATIONS

The application of the χ^2 test on the working

preferences of women employees reveals the significant differences on both the categories. The study also reveals that women employees highly prefer the plains areas as job location, whereas the education sector has been reported as the most favourite employment sector. The rejection of both the null hypotheses shows clear differences regarding job location and the sector of employment. It means that these differences are not by chance. Hence, it may be concluded that women employees working in the bank branches of three select districts of the Garhwal region have strong exit intentions.

This study tries to provide some notable insights about the exit intentions of female bank employees. It will definitely help the HR practitioners, managers, employers, and the government, for the overall development of the human resources and for framing of appropriate policies and strategies for women employees of the banking sector.

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Words are things; and a small drops of ink
Falling like dew upon a thought produce
That which makes thousands, perhaps millions, think.

– Lord Byron (1788-1824)



Most people are mirrors, reflecting the moods and emotions of the times;
few are windows, bringing light to bear the dark corners where troubles fester.
The whole purpose of education is to turn mirrors into windows.

– Sydney J. Harris, Journalist and Author (1917-1986)



Words are timeless. You should utter them or write them with knowledge of their timelessness.

– Kahil Gibran, mystic, poet, and artist (1883-1931)



Language is not an abstract construction of the learned,
or of dictionary-makers, but is something arising out of
the work, needs, ties, joys, affections, tastes,
of long generations of humanity,
and has its bases broad and low, close to the ground.

– Noah Webster, lexicographer (1758-1843)

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IMPACT OF TRUST AND REVIEWS ON ONLINE PURCHASE INTENTIONS

A Study in the Context of COVID-19

Garima Gupta and Komal Singharia

Abstract

Purpose: *The study seeks to investigate the impact of trust and reviews on online purchase intentions in the context of the crisis induced by COVID-19.*

Design/methodology/approach: *An online questionnaire yielded a data set of 124 responses that were analysed, using the Partial Least Squares-based Structural Equation Modelling (PLS-SEM) technique in Smart PLS 2.0.*

Findings: *The study reveals a direct and significant impact of trust and reviews on online purchase intentions. The results also confirm the moderating effect of COVID pandemic in influencing the relationship between reviews and intentions to purchase online. However, the interactive role of COVID-19 in affecting the linkages between trust and reviews and online purchase intentions could not be established.*

Practical Implications: *The paper provides useful suggestions for online marketers to operate in a turbulent environment, and strengthen the impact of reviews on online purchase intentions to emerge stronger in future.*

Limitations: *The findings are based on the analysis of a non-normal data collected from a small sample using convenience-based sampling and, thus, restrict generalisability of the results to a larger population.*

Originality/value: *The current paper contributes to the existing literature by examining and explaining the role of the afore-mentioned exogenous variables in the context of uncertainty induced by COVID-19.*

Key words: *Trust, Reviews, Online purchase intentions, COVID-19*

INTRODUCTION

With the government's endless efforts towards digitisation, there has been a tremendous growth in the Internet penetration in India. Currently estimated at 574 million, the number of monthly active Internet-users has grown 24 per cent over that of 2019, indicating an overall penetration of 41 per cent (*Livemint*, May 2020). By enabling a two-way dialogue, the online connectivity has opened up countless opportunities for firms to connect and interact with their existing as well as prospective customers. The phenomenal power of this consumer connect on digital platform has also made it much easier for firms to gauge consumers' perception and response for their offerings as well as of the organisation as a whole just by examining what the people are saying on the Internet about their products and/or services. The cumulative and viral effect of the shared experiences and reviews forces the firm to address customer needs at the earliest. In effect, consumers are no longer just the end-users of a product/service but also partners of the firms who can actually help or assist the firms in designing the right kind of products/services that meet their requirements.

In such a scenario, it becomes imperative that firms identify and understand the changes in consumer behaviour and modify their offerings in accordance with the changed behaviour. Needless to mention, the firm that does it better than its competitors will surely enjoy a competitive edge over them and eventually would be able to win over consumers' trust, advocacy and loyalty. In addition, government directives, social isolation, and the news about the spread of the virus have made it hard for everyone to remain unaffected by the ongoing crisis situation. A recent study by Pham (2020) reports that COVID-19 pandemic could influence demand, psychology, emotion, customer heterogeneity, trust between the parties, and perception, thereby affecting customer's switching behaviour (Pham *et al.*, 2020). It is in this context that the present study was undertaken to examine the influence of COVID pandemic in affecting the well-established linkages between trust, reviews, and consumers' intentions to purchase online.

REVIEW OF LITERATURE

Studies on COVID-19 Pandemic and Online Purchase Intentions

Countries across the globe are still dealing with the effect of COVID-19 pandemic that first showed its presence in Wuhan (China) in November 2019. Measures, like social distancing and lockdown were undertaken to avoid contact and curtail the spread of the virus. At a broader level, the pandemic has not only impacted the economic growth but has also brought about a major social change. Awareness about the COVID-19 has made people feel uneasy and less willing to step out, use public transport, travel, or come in contact with others (e.g., Baker *et al.*, 2020; Lewis and Garbett, 2020). In such a situation, consumers all over the world appear to have changed their living habits, consumption pattern, and shopping behaviour. In India too, the lockdown imposed restrictions on the movement of people. As people could not go to work or for shopping and have remained confined to their homes, the use of online channels has substantially increased over the last few months. While the online shopping has increased to 64 per cent from 46 per cent (*The Economic Times*, April 24, 2020), the frequency of purchases has also gone up, with about 29 percent consumers purchasing online several times a month as per a survey conducted by *Rakuten Insights* in May 2020 on Indian's online shopping behaviour.

With the situation in favour of online purchases, it only seems relevant that marketers continue their focus on identifying various factors that lead to or impact the customers' intent to purchase a product/service online via e-commerce platforms. In this regard, several models identifying a number of factors that impact online purchase intentions have been developed by researchers over the years (e.g., Belanger *et al.*, 2002; Choi *et al.*, 2003; Delafrooz *et al.*, 2011). These factors include privacy, features of the website, usefulness of the website, perceived ease of use, attitude of customer, trust, and security. In a study, conducted by Brown *et al.* (2003), it was found that the product types, prior purchase via the Internet, and gender have a direct effect on a customer's intention to purchase, with men being more keen to engage in

online buying than women. Moreover, Chang and Chen (2008) found that the web-site quality and brand have an impact on consumer's trust in the website and the perceived risk, which, in turn, impacts the customer's intention to transact on that website.

However, although all the aforesaid factors have been found to exert an influence on consumers' online purchase intentions, the present study seeks to examine the role of trust and reviews due to the relevance of these factors established by previous studies, specifically in times of uncertainty. For instance, Doney and Cannon (1997) stressed that the notion of trust becomes even more important in

Studies on Trust and Reviews in Online Purchases: Concept, Role and Linkages

In order to survive in the cut-throat competition in the online marketplace, it becomes fundamental for marketers to ensure that their customers have faith in their offerings and trust the brand to be carrying out its operations with utmost honesty. Defined as consumers' "willingness to rely" (Chaudhuri and Holbrook, 2001), or "consumer's confidence that one will find what is desired" (Deutsch, 1973), past studies have considered reliability, dependability, and intentionality as important aspects of trust (Dawar and Pillutla, 2000; Delgado-Ballester *et al.*, 2003). While reliability/dependability deals with the ability to meet promises; the intentionality relates to the belief of individuals that the brand has good intentions and functions in the best interest of its consumers. Researchers have also suggested that trust develops through past experience (Rempel *et al.*, 1985; Ravald and Grönroos, 1996; Garbarino and Johnson, 1999). Brand trust has been found to have a positive impact on online purchase intentions in the sense that a customer who has trust in a particular brand will most likely purchase a product from that trusted brand instead of any unknown brand which might prove to be a risky purchase (Bhandari and Rodgers, 2018; Chen-Yu *et al.*, 2016). Further, though Hsu *et al.* (2013) report trust to exert an influence on the shopping behaviour of consumers, its role in online platform

such a situation as it reduces the uncertainty in environment in which consumers feel vulnerable and assures them that the trusted brand can be relied on. Similarly, researchers have also revealed that with an increase in the volume of online reviews, there is lesser uncertainty about the product which stimulates its sales (Chen, *et al.*, 2011). Further, the view expressed by Rehman *et al.* (2019) that the relationship between intention and actual behaviour of consumers can be strengthened by using some moderators, lend support to test the moderating role of COVID-19 pandemic in the present study.

is all the more important as the additional risks associated with the electronic platform might pose a threat to the willingness of people to make a purchase online (Pavlou, 2003).

Along with trust, the impact of reviews on consumers' attitude and online purchase behaviour is well-recognised (*e.g.*, Floyd *et al.*, 2014; von Helversen *et al.*, 2018). Defined by Hennig-Thurau *et al.* (2004) "any positive or negative statement made by a potential, actual, or former customer about a product or company via the Internet", online reviews enable the managers to examine the success of their marketing strategies, identify their brand's relative position as compared to their competitors, and identify product attributes most valued by the customers (Lee and Bradlow, 2011). Due to the lack of personal touch in online purchases, people tend to rely on the reviews posted by the past users to get information about various aspects of the product/service, thereby affecting their intentions to make a purchase. The quality, quantity, and credibility of the reviews also play an important role in this relationship (Vahdati and Mousavi Nejad, 2016; Bataineh, 2015; Reza Jalilvand and Samiei, 2012; Elseidi and El-Baz, 2016; Filieri *et al.*, 2018). Sellers, therefore, should encourage customers who had a positive experience to post their feedback on the seller's or on a third-party website and recommend their product to other users (Dellarocas, 2003).

Studies also revealed that a person's receptivity to online review depended on their familiarity with the retailer (e.g., Chatterjee, 2001). Ho-Dac, *et al.* (2013) suggested weak brands to generate positive customer reviews to strengthen their brand equity as with an increase in the latter, subsequent reviews become less impactful. A study conducted by Zhu and Zhang (2010) too showed that online reviews are much more valuable in case of niche products due to lesser awareness about such products. In the larger interest of sellers, Bickart and Schindler (2001) suggest them to allow for the creation of an online community/discussion forum, wherein customers can directly communicate with other customers and talk about their experiences. Forman *et al.* (2008) further suggests that sellers can increase the sales of their products by encouraging reviewers to disclose identity-relevant information about them. However, despite a greater impact of negative reviews than positive ones on purchase decisions posited by researchers (e.g., Chevalier and Mayzlin, 2006; Sen and Lerman, 2007; Cheung and Lee 2008; Chen *et al.*, 2011), sellers should not get too much consumed with the want of positive

reviews that they engage in unethical exercises such as posting fake positive reviews about their own products, paying bloggers/reviewers to post flattering comments about their products or by posting fake negative reviews about their competitor's products (Hyde, 2015).

So far as the linkages between trust and reviews are concerned, not many researchers have linked brand trust with online reviews yet. The study by Chang *et al.* (2013) did examine the mediating role of trust in affecting the relationship between online reviews and a prospective customer's willingness to buy and suggested that managers should focus on handling negative online reviews in order to prevent any damage to brand trust. Another study by Thakur (2018) on impact assessment of customer engagement on intentions to write online reviews also delved into the mediating role of trust in retailer, and satisfaction with the retailer. He found the relationship to be significant; with trust in retailer playing a significant mediator and satisfaction being insignificant.

OBJECTIVES OF THE STUDY

Though the integral role of trust and reviews in exerting an influence on consumers' intentions to purchase online has been examined in a number of past studies, less attention has been devoted to understand and investigate the interplay of linkages between trust, reviews, and online purchase intentions in a situation of crisis. The present work aims to bridge this gap by assessing the moderating role of COVID-19 in affecting the linkages between trust, reviews, and online purchase intentions.

RESEARCH METHODOLOGY

Since, it was not possible to collect the responses through a personally-administered questionnaire; an online questionnaire was circulated among

contacts on WhatsApp and Facebook. In addition, respondents in the social network were requested to initiate snow ball sampling by further sharing the survey with their contacts. People who had purchased anything online during the last six-month period constituted as prospective respondents for the study. Repeated follow-up improved the response rate and yielded a total of 124 responses. Even though this sample size is not representative of the large number of consumers who make online purchases, it is sufficient to conduct the study of this nature. Since the objective was not to analyse the data across consumer demographics, only the name and contact details of the respondent were obtained. The online Google form ensured that the respondents provided their responses on every statement and so no missing responses were found in the questionnaire at the time of data entry.

The structured questionnaire used for the survey sought responses on primary measures under investigation namely, trust, reviews, online purchase intentions, and the COVID-19. Scales developed by previous researchers were adopted for all the constructs (see **Appendix**). While the work of Sirdeshmukh *et al.* (2002) and Tax *et al.* (1998) provided a combined six-item scale as a measure of trust, statements for measuring online reviews were taken from the study by Lackermair *et al.* (2003). Similarly, online purchase intentions were operationalized through five statements taken from the studies by Chu and Lu (2007) and Garcia *et al.* (2020). Furthermore, since not much empirical work has yet been undertaken to measure COVID-19, the scale items for measuring the impact of the pandemic were developed specifically for this study. The recent work by Pham *et al.* (2020) was considered as the basis for developing statements that captured the awareness and infection with COVID-19. A seven-point Likert scale was used to quantify the responses for all the measures.

DATA ANALYSIS AND FINDINGS

The study used PLS-SEM in Smart PLS 2.0 to analyse the data. This technique is more suitable to studies that aim to examine and explain the target constructs (Hair *et al.*, 2013), contribute in terms of theory building (Henseler, 2018), and have relatively smaller sample sizes (Goodhue *et al.*, 2012), thereby making it appropriate for use in the current work. Though PLS performs as well with non-normal distributions, the study conducted the normality test to better understand the data. The values of skewness and kurtosis were computed in SPSS. The distribution was found moderately skewed left (skewness between -1 and -0.5) with light tails or outliers (negative kurtosis) relative to a normal distribution. The normality test further supports the use of PLS technique for data analysis.

The findings with respect to reliability, validity, and model fit are discussed below:

Reliability, Validity, and Model-Fit

Each of the reflective constructs under investigation was subjected to reliability and validity analysis. This is summarised in **Table 1**.

Table 1: Reliability, Validity, and Model-Fit

Construct	Alpha	CR	AVE	CO	OPI	Reviews	Trust
CO	0.8779	0.9160	0.7317	0.8554			
OPI	0.7773	0.8484	0.5287	0.6351	0.7271		
Reviews	0.7369	0.8349	0.5587	0.5460	0.7212	0.7474	
Trust	0.8419	0.8440	0.5602	0.6478	0.7144	0.7261	0.7485

Note: CR-Composite Reliability, AVE-Average Variance Extracted, CO- COVID-19, OPI-Online Purchase Intentions

In the above table, the Cronbach alpha values are above 0.8, composite reliability more than 0.7, and AVE scores higher than 0.5 for all the constructs satisfy the threshold acceptance level, thus lending support to the internal consistency and the

convergent validity of the model. The discriminant validity was examined using the Fornell and Larcker (1981) criterion. The values demonstrated that the square root of AVEs (diagonal values) exceed its corresponding correlation with other

latent constructs (below the diagonal), thereby fulfilling the Fornell and Larcker (1981) criterion of discriminant validity.

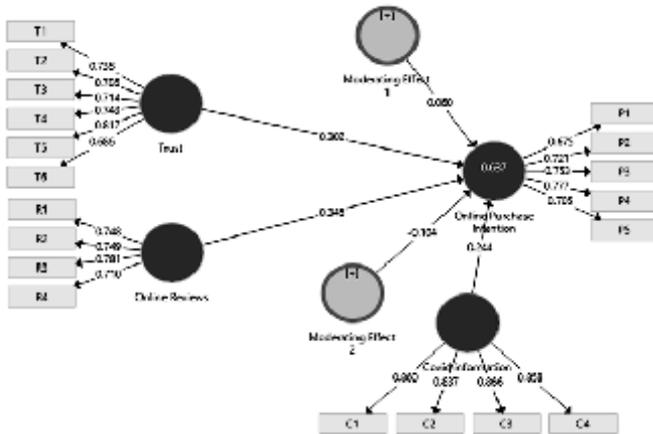


Figure 1: The Complete Structural Model

SRMR=0.0718, NFI= 0.879, Chi-square= 443.25, Adjusted R-square=0.62

The PLS algorithm which was used to evaluate the reflective structural model is presented in **Figure 1**. Adjusted $R^2 = 0.62$ of the endogenous construct (i.e. online purchase intentions) and all factor loadings above 0.6 reflect a substantial model fit (Chin, 2010). The value of SRMR < 0.08 and NFI > 0.8 are acceptable and support the overall fitness of the structural model.

Impact Assessment

Using the bootstrapping procedure, the impact of trust and reviews on online purchase intentions was examined. This is summarised in **Table 2**

Table 2: Path Coefficients

Path	β	t-stat	p-value
Trust- Online Purchase Intentions	0.302	2.963	0.003*
Reviews - Online Purchase Intentions	0.345	3.837	0.000*

Note: *p < .01

The beta values in above table for the direct path linkages between the constructs show the positive and significant impact of both the exogenous constructs on intentions to purchase online.

Moderating Role of COVID Pandemic

The study investigates the presence of the moderating impact of COVID-19 in influencing the linkages of trust and reviews with online purchase intentions. Separate moderation analysis was performed to test the two linkages. The first moderation effect was examined between trust and online purchase intentions. Accordingly, an interaction/moderation variable, as the product of trust and COVID-19 was introduced in the

structural model. While the direct linkage between COVID-19 and online purchase intentions turn out to be significant ($\beta = 0.244, p < 0.05$), the interactive effect is found to be insignificant ($\beta = 0.059, p > 0.05$). The results thus, fail to establish the moderating role of COVID-19 in affecting the relationship of trust with purchase intentions. Similar procedure was repeated for testing the second moderation by introducing the product of reviews and COVID pandemic as moderator in the structural model. Unlike with trust, the negative coefficient of the interaction term ($\beta = -0.104, p < 0.05$) further imply that the linkage between reviews and online purchase intentions gets weaker as COVID gains strength.

CONCLUSIONS AND POLICY IMPLICATIONS

The tremendous impact of digitalisation on online shopping behaviour is undeniable. An increasing number of people are now resorting to online shopping as it allows them to make a purchase at their own convenience, from wherever they are and at whatever time they want to. While it has made some things easier, others have become a little more complicated. In this regard, the current work investigates two key exogenous constructs namely, trust and reviews due to their well-established role in affecting intentions to purchase a product/service online, specifically in the situations of uncertainty, similar to the one been created by the ongoing COVID pandemic. An examination of the linkages in the context of COVID brings to the fore interesting insights.

The positive and significant impact of trust and reviews on intentions to purchase online implies that a continued focus on these aspects is required. By providing dependable product/services and keeping in mind consumers' best interest at heart, firm would also get an opportunity to strengthen the brand-related outcomes (such as, brand preference, brand attitude, brand image, and brand loyalty) in favour of their respective brand.

Reviews, on the other hand, remain a double-edged sword for firms. The digital platforms give more power to consumers as the firms now are compelled to give them all the necessary information that they are entitled to receive, keep them updated on their offerings, and solve their queries. As the instances of failure or misleading information are instantly shared on the social media, the firms expose themselves to genuine appreciation as well as harsh criticism by allowing people to review their products on the webpage itself. Thus, it is suggested that firms exercise caution with what they say, how they say it and even when they say it. As long as these remain real, the reviews can help both the firm (by providing a feedback for their offering) as well as the future customers (by supplying useful information to make an informed purchase

decision), which is why firms should encourage their customers to provide reviews for their products while refraining from engaging in any kind of manipulation of reviews.

An assessment of the interaction of exogenous variables with COVID pandemic further provides an interesting perspective of the linkages. When examined with respect to trust, the results show significant impact of the crisis induced by the pandemic on consumers' intentions to purchase online but do not support its role as a moderator. On the other hand, a similar assessment with respect to reviews revealed the interactive role of the COVID pandemic in affecting the linkage between reviews and purchase intentions. A negative beta value for the moderator variable clearly implies that the impact of reviews on online purchase intentions gets weakened during the period of COVID pandemic. This seems quite logical as the uncertainty surrounding pandemic has created a fear in the minds of people. Media reports of panic buying by consumers in other countries has affected people at a psychological level, resulting in a situation where their purchase behaviour, at present, is more driven by the affection related to COVID rather than by reviews, rationality or judgment. But, eventually, the decrease number of COVID cases would strengthen the impact of reviews on online purchase intentions. Moreover, online purchases are not new and many people had already been exercising this option in the pre-covid period. The pandemic has resulted in a shift from a lesser proportion of consumers and thus, it is probable that purchase online might fall back to normal level once the Covid risk subsides. Hence, it would pay in the longer run if the firms in the online platform continue with their efforts to garner positive reviews from their base of target consumers as they are ones that are likely continue with their online purchase and would rely on reviews while making product-related purchase decisions in post-Covid period. In all, the aforesaid suggestions can be implemented by online marketers to develop strategies to sustain in a crisis-induced turbulent marketing environment.

Limitations of the Study

The current work is not devoid of limitations. The study is based on a small and convenience sample and examines the role and linkages of only two antecedents with online purchase intentions in the context of Covid-19. Also, the study has not taken into consideration the interplay of other factors such as frequency and nature of product purchases that may influence consumers' online purchase behaviour. Lastly, the study has revisited the established linkages amid COVID has not conducted any analysis to predict the long-term effect on online purchases when the crisis period is over.

Scope for Future Research

The gaps in the present research do not counteract

its contribution, rather provides direction to future researchers to undertake conclusive research in this area. There exists scope for future studies to make the research model more robust by examining other relevant antecedents of online purchase intentions on a larger and diversified sample. An analysis of results across consumer demographics, customer characteristics (such as, frequency of purchase, family size), and product category (essential and non-essential) may yield further interesting insights. It would be worthwhile to investigate the potential reasons of consumers' disengagement from online platform. By addressing these reasons, firms can not only avoid committing the mistakes which will make them lose their online customers but can also work towards achieving their loyalty and engagement.

Appendix: Scales used in the Study

Construct	Scale	Mean	S.D.
Trust	'I feel that I can trust this brand/organisation while making online purchases'.	4.98	1.36
	· 'This brand/store is competent'.	5.16	1.21
	· 'This brand/store is of high integrity'.	5.02	1.21
	· 'This brand/store is responsive to customers'.	5.47	1.20
	· 'I find this brand/store dependable'.	5.44	1.34
	· 'I believe this brand/ organisation can be relied upon to keep its promises'.	5.15	1.22
Reviews	· 'Online reviews are important for my buying decision'.	5.07	1.23
	· 'I often read reviews while considering decision to buy online'.	5.13	1.18
	· 'I usually compare positive and negative reviews'.	5.10	1.23
	· 'Reviews become the reason for my intentions to purchase'.	4.97	1.34
Online Purchase Intentions	· 'If the opportunity arises, I intend to buy online'.	5.15	1.39
	· 'I can predict what I should buy online'.	5.18	1.24
	· 'I am likely to make online transactions soon'.	4.99	1.32
	· 'My willingness to buy products/services online is high'.	5.07	1.30
	· 'In near future, I would consider purchasing online'.	5.06	1.45
COVID pandemic	· 'Government imposed lockdown has encouraged online shopping'.	5.22	1.45
	· 'News/ information about Covid has led me to think about making purchases online	5.23	1.34
	· 'I feel less confident to step out'.	5.24	1.28
	· 'Online shopping is the safe choice for me during this period'.	5.28	1.43

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There may be times when we are powerless to prevent injustice,
but there must never be a time when we fail to protest.

–**Elie Wiesel, writer, Nobel Laureate (b.1928)**



In a library, we are surrounded by many hundreds of dear friends
imprisoned by an enchanter in paper and leathern boxes.

–**Ralph Waldo Emerson, writer and philosopher (1803-1882)**



A superior man is modest in his speech, but exceeds in his actions.

– **Confucius, philosopher and teacher (c. 551-478 BCE)**

PERFORMANCE OF THE NVIX DURING HIGH MARKET VOLATILITY

The Case of India

Harvinder Kaur

Abstract

Purpose: *The study examines the performance of the NSE India VIX (NVIX) in terms of its relationship with the Nifty realized volatility during the period of November 2019 to October 2020, a period of high volatility during which the COVID-19 pandemic unfolded. The study specifically examines if the NVIX contains a volatility premium over and above the Nifty realized volatility, and, whether a linear/near-linear relationship exists between the NVIX implied volatility and the Nifty realized volatility.*

Design/methodology/approach: *The dataset comprises the Nifty and the NVIX daily prices. The NVIX Nifty realized volatility relationship is examined through linear regression, first by using their daily values and then, for a more nuanced insight, by dividing the volatility dataset into percentile buckets.*

Findings: *The study finds that the NVIX generally contains a volatility premium, but not during the extremely high volatility, i.e., annualised volatility of more than 32%. Also, a strong linear relationship exists between the NVIX and the Nifty realized volatility. The NVIX performs well during high market volatility.*

Practical implications: *A strong linear relationship between the NVIX and the Nifty volatility, even during high volatility, indicates that the NVIX can potentially be used as a reliable predictor of the future market volatility under different volatility conditions. Such a possibility holds immense potential for investors and the stock exchange administrations alike.*

Limitations and Further Research: *This study takes a look at a very specific phenomenon related to the performance of the NVIX during a high volatility regime. Further studies can examine the performance of the NVIX over a larger number of high volatility periods and generate deeper insights towards building of a general forecasting model for the NSE market volatility based on the NVIX implied volatility.*

Originality/value: *The study spans a very recent period (2019-2020) and utilizes a simple and intuitive methodology. The findings of the study indicate the possibility of building a general model for forecasting future Nifty volatility based on currently available inputs. Such a model holds immense value for the market participants in their investment decisions related to portfolio hedging based on the NVIX implied volatility.*

Key words: *Stock market, Nifty, Volatility, NVIX, India*

INTRODUCTION

The period from November 2019 to October 2020 has witnessed the unfolding of the dreaded COVID-19 pandemic in multiple waves across the world and its debilitating impact on global economies, apart from considerable loss of human lives. Global stock markets were rattled in March 2020 but recovered, mainly on the back of the technology stocks and financial stimuli from the governments. Global financial markets have exhibited high volatility due to general confusion about the potential economic impact of the pandemic. In this scenario, volatility indices have become the center of attention, in particular, their ability to predict realized market volatility.

The NSE's India VIX index, also known as the NVIX, is a volatility index that tracks the implied volatility of the NSE market represented by the Nifty50 ('Nifty') index. The design of the NVIX is similar to that of the VIX index of the Chicago Board Options Exchange (CBOE), though with some modifications. The VIX is computed from a range of stock prices of a basket of tradable near-term (expiring in next one month or so) S&P 500 options and the NVIX is computed from Nifty Order Book of Out of the Money (OTM) put and call options. The NVIX uses put and call options in the near and next month expiration in a 30-calendar day sliding window. The VIX rolls to the next and far month with less than a week to expiration, the NVIX rolls to the next and far month with three trading days left to expiry. While the VIX uses the Constant Maturity Treasury (CMT) rates, the NVIX considers the relevant tenure of NSE MIBOR (Mumbai Inter-Bank Offered Rate) (i.e. 30 days or 90 days) as the risk-free interest rate for the respective expiry months of the NIFTY option contracts. The NVIX is computed by considering the prices of the out of the money (OTM) options if the at-the-money (ATM) strike is identified. The latest available traded price of the NIFTY futures of the respective expiry month is then considered as the forward index level. In case of CBOE, the forward index level is arrived at by using the strike price at which the absolute difference between the call and put prices is minimum.

Volatility indices around the world are attracting increased attention, mainly due to two reasons:

1) they are used as forecasts of future market volatility; and, 2) their use as an asset class in portfolio diversification strategies. There are over 50 volatility indices in use across the global markets (Fassas and Siriopulous, 2020). Their design is based on equity indices, ETFs, commodities, interest rates and exchange rates. A volatility index is a measure of implied volatility based on volatility of the constituent option prices. The accuracy of the volatility forecast is therefore critical to the practical utility of such as index. Further, the predictive performance of the volatility index should hold good across a range of volatility levels.

Volatility indices exhibit some well-known characteristics, for instance, the existence of a 'volatility premium' over and above the realized market volatility. This premium holds true in the presence of general properties of the volatility process, like mean reversion and persistence (Edwards and Preston, 2017). The properties of mean reversion and persistence have also been established for the Indian stock indices (Kaur, 2004). These properties of the volatility indices and asset volatility can be exploited to disintegrate the implied volatility of the option prices into components derivable from historical volatility and the volatility premium contained in the volatility index. These components can then be used to build mathematical models for the relationship between implied volatility and realized volatility, and improve the forecasting accuracy of the volatility indices.

Edwards and Preston (2017), in their study on the CBOE VIX, found that while there is a linear/near-linear relationship between the VIX-implied volatility and the S&P 500 realized volatility at low volatility, this relationship breaks down during high market volatility, i.e. annualized volatility higher than around 30 per cent.

The present study tests the relationship between the India VIX and the Nifty realized volatility during the high volatility period from November 2019 to October 2020. Specifically, the study attempts to find the existence of a volatility premium in the NVIX level and a linear/near-linear relationship between the NVIX and the Nifty realized volatility at all volatility levels, including the high volatility

levels. Such findings could facilitate the design of a volatility forecasting model based on already available data, such as Nifty realized volatility and the NVIX level, etc. This possibility holds value for option traders' investment decisions, and, for the stock exchange administrations in their monitoring and control actions based on the assessment of future market volatility.

REVIEW OF LITERATURE

The VIX and other volatility indices around the world have been widely analyzed for their utility as future market volatility predictors and as inputs to portfolio investment strategies. These studies have presented some stylized facts on the behavior of volatility indices and attempted to build volatility forecasting models for them. Some of the important studies on the implied volatility contained in the volatility indices and its relationship with the realized volatility are briefly discussed below.

Fassas and Siriopoulos (2020) surveyed 50 volatility indices in use across the global markets. These include volatility indices based on equity indices, *e.g.* the Chicago Board Options Exchange (CBOE)'s VIX and its derivatives based on S&P options, DJIA options and NASDAQ options; the VDAX based on Germany's benchmark index DAX 30; VCAC based on France's CAC 40; and, a number of other volatility indices from UK, Europe, Canada, Hong Kong, Taiwan, Korea, China, India, Mexico, Russia. Similarly, there are volatility indices based on the volatility of equity ETFs, currencies, commodities, interest rates, and volatility itself. They find that implied volatility includes information about future volatility beyond that contained in past volatility and this is consistent across all assets under review. They find a significant contemporaneous relationship between implied volatility changes and underlying returns, but the implied volatilities in commodities, bonds, currencies and volatility react differently to underlying price changes compared to equities.

Moran and Liu (2020), in their recent study have suggested that dynamic exposure to long positions in the short-term VIX futures can be a valuable risk reduction strategy. Triggers identifying high-volatility regimes and using monthly or weekly

rebalancing may be considered for investors concerned about mitigating tail risk in their portfolios without a large sacrifice in returns.

Fassas and Hourvoulides (2019) have suggested that the VIX term structure can be employed as a contrarian market timing indicator and traders can use the VIX futures term structure not only as a proxy of market expectations on forward volatility, but also as a stock market timing tool.

In a comprehensive study on the predictive power of the VIX, Edwards and Preston (2017) have examined the VIX-S&P 500 realized volatility relationship. They find that the VIX contains a general volatility premium over and above the S&P 500 realised volatility. They have suggested an empirical model for forecasting market volatility on the basis of the current VIX level, with the exception of extremely high volatility percentiles (*i.e.*, annualized volatility > 30 per cent).

Black and Szado (2016), in their study on a large sample of exchange-listed funds, found that these funds turned in strong risk-adjusted performance and earned similar returns to the S&P 500 Index from the year 2000 through the year 2014, with substantially less risk as measured by standard deviation or beta. He, Hsu, and Rue (2015) have analyzed the simulated long-term (1996–2012) returns of buy–write strategies using call options on the S&P 500 Index. They find that a buy–write strategy is likely to serve well to diversify the risks of a low volatility equity portfolio.

The study by Chandra and Thenmozhi (2015) has examined the asymmetric relationship between the India VIX (NVIX) and Nifty returns, and compared the NVIX performance against ARCH/GARCH class of models. They found that Nifty returns are negatively related to the changes in the NVIX levels, and the NVIX-Nifty returns relationship is asymmetric in relation to significant upward and downward movement of the Nifty. During sharp upward movement in Nifty, returns on the NVIX and the Nifty tend to move independently, and during sharp downward movement, the NVIX return – Nifty return relationship is not significant at higher quantiles. This asymmetry makes the NVIX a candidate for portfolio hedging during sharp declines. The study compares the NVIX performance against ARCH/GARCH class of

models and finds NVIX to be a better predictor. They also find that the NVIX is a reliable signal for portfolio rebalancing, i.e. a large increase in its level is a reliable trigger for switching to large-capitalization stocks from mid- and small-capitalization stocks, and vice-versa when NVIX implied volatility significantly reduces.

Shaikh and Padhi (2014) have investigated the forecasting performance of *ex-post* and *ex-ante* volatility forecasts against the realized return volatility over various time horizons, i.e., one trading day, five trading days, 10 trading days, 22 trading days and 66 trading days. They find that *ex-ante* volatility best explains the future market volatility. Their study revealed that implied volatility forecasts of all horizon appears positive unbiased forecaster of realized volatility and that implied volatility is free from measurement error.

Kumar (2012) in his study has employed quantile regression and VAR techniques and examined the relationship between the India VIX (NVIX) returns and the Nifty returns, and the predictive power of the NVIX to forecast future volatility. The study finds that the NVIX returns are negatively related to the Nifty returns and the leverage effect is only significant around the middle of the joint distribution. Monthly volatility forecasts obtained from the NVIX contain important information about the future market volatility. The study has suggested that the asymmetrical relationship between the NVIX and the Nifty returns can be exploited for portfolio hedging but not during sharp market declines.

Moran and Dash (2007) have demonstrated the use of the VIX as a portfolio hedge. They have explored the pricing of the VIX contracts and explained how they reflect the forward value of the VIX rather than the current value.

In their study, Hill, Balasubramanian, Gregory, and Tierens (2006) examined the strategy underlying the Buy Write Monthly Index (BXM) on the S&P 500 and suggested alternative structured S&P 500 option-overwriting strategies that have attractive risk-return trade-offs than the BXM. Similarly, Feldman and Roy (2005) assessed the investment value of the CBOE S&P 500 Buy Write (BXM) Index and its covered call investment strategy to an investor from the total portfolio perspective.

The studies on the volatility indices based on equity index options have revealed some well-known characteristics of the volatility indices. For instance, the VIX level includes a general “volatility premium” over and above the S&P 500 realized volatility; and, an otherwise linear relationship between the VIX and the realized volatility breaks down during high volatility regimes. This means that volatility indices could be good predictors of expected market volatility (minus the volatility premium) at least during low to medium volatility regimes, e.g. annualized volatility of less than, say, 30 per cent, but not during high volatility regimes (Edwards and Preston, 2017). Past studies on the India VIX returns and volatility (Chandra and Thenmozhi, 2015; Shaikh and Padhi (2014); Kumar, (2012), have confirmed the asymmetrical relationship between the NVIX and the Nifty returns during the positive and negative movements, and higher persistence in the NVIX level as compared to the Nifty realized volatility, especially during heightened volatility as a result of a sharp downward movement of the market. These studies have employed the GARCH class of models to assess the predictive performance of the NVIX.

The present study provides current evidence on the relationship between the NVIX implied volatility and the Nifty realized volatility during a recent 12-month period of high market volatility (November 2019 – October 2020), by following a different and much simpler methodology. This period includes bouts of extremely high volatility in March 2020 and April 2020 when the global markets factored in the adverse economic impact of the COVID-19 pandemic and fell sharply and recovered sharply thereafter.

OBJECTIVES OF THE STUDY

The study seeks to empirically examine the relationship between the India VIX (NVIX) implied volatility and the realized volatility of the Nifty returns during the November 2019 to October 2020 period, a relatively-high volatility period, due to the COVID-19 pandemic with the following specific objectives:

1. To examine whether there exists a volatility

premium in the NVIX implied volatility over and above the Nifty realized volatility; and

- To ascertain whether a significant statistical relationship exists between the NVIX and the Nifty realized volatility, at various volatility levels.

RESEARCH METHODOLOGY

The sample, the dataset, the sources of data and the step-wise computation methodology used in conducting the study, are briefly described in the following paragraphs.

The Sample

The sample comprises two NSE indices, viz., the Nifty (Nifty50) and the India VIX (NVIX). While, the Nifty represents the market portfolio, the NVIX represents the implied market volatility. For the purpose of comparison, the CBOE VIX index was also included in the sample.

The Dataset and the Data Sources

For the period of study, viz. November 1, 2019 to October 31, 2020, daily closing prices (adjusted) of the Nifty and the VIX have been taken from the Yahoo! Finance website (finance@yahoo.com). The Nifty price data for the calendar years 2014 to 2019 also has been taken for the purpose of illustration. The NVIX time series for the corresponding periods has been taken from the NSE website (www.nseindia.com).

Measures of Daily Return and Volatility

The methods used for computation of daily return and volatility are summarised in **Table 1**. While daily returns are computed as log differences of prices on consecutive trading days, the volatility is computed as the standard deviation of returns during a specified period.

Table 1: Methods of Computation of Return and Volatility

Volatility	$s = \sqrt{\frac{1}{n} \sum_{t=1}^n (r_t - \bar{r})^2}$	n = number of observations r _t = return on day t \bar{r} = average return during the period
Daily Return	$r_t = \log_n \left(\frac{p_t}{p_{t-1}} \right)$	p _t = price on day t p _{t-1} = price on the day t-1

The *Monthly Volatility* is computed as the standard deviation of daily returns in a month multiplied by the square root of number of trading days in a month, i.e. ~20 days in the case of the NSE. Similarly, *Annualized Volatility* is computed by multiplying the monthly volatility by the square root of number of months in a year, i.e. $\sqrt{12}$.

The *Realized Volatility (RV)* on a trading day refers to the standard deviation of daily returns on the preceding 30 calendar days. For the NSE, there are ~245 trading days in a year, and, therefore, around 20 trading days in a calendar month. A sliding window of 20 trading days is applied to compute realized volatility on each trading day.

The *Daily Volatility* is annualized by multiplying it by the square root of number of trading days in a year, that is, $\sqrt{245}$ for the NSE.

The *Monthly Return* is computed as the log difference of price on the last day of the month and price on the first day of the month. Further, monthly return, like monthly volatility, is annualized by multiplying it by square root of number of months in a year, i.e. $\sqrt{12}$. *Daily Return* is annualized by multiplying it by $\sqrt{245}$.

Hypotheses to be tested

In order to meet the objectives of the study, the following hypotheses were formulated for testing:

Hypothesis 1: The NVIX contains a volatility premium over and above the Nifty realized volatility at all Nifty volatility levels.

Hypothesis 2: There exists a linear/near-linear statistical relationship between the NVIX and the Nifty realized volatility.

Method of Analysis

The methodology followed in the study is broadly in line with the methodology used by Edwards and Preston (2017) to examine the relationship between the CBOE VIX and the S&P 500 index realized volatility. The following steps have been followed in order to compute descriptive statistics on the

indices and regress relevant variables.

1. Synchronize the Nifty and the NVIX time series by removing extra values and/or estimating missing values.
2. Compute daily return on the Nifty as log normal difference of consecutive day prices. Monthly return is computed as log normal difference of prices on the first and last day of the month. Returns are represented as percentages.
3. Compute the volatility of the Nifty daily returns in a month as the sample standard deviation of daily returns. Monthly volatility considers the number of trading days in a particular month. For annualizing monthly volatility, multiply it by $\sqrt{12}$.
4. Compute the descriptive statistics on the NVIX and Nifty realized Volatility for each day and month. This is done in order to study the nature of the distributions.
5. Regress the Realized Volatility (Independent variable) against the NVIX (dependent variable) to reveal the extent of linearity in their relationship.
6. Sort the daily values of Realized Volatility (annualized) from low to high and divide the sample into ten sub-sample buckets containing one-tenth of the values each.

Compute averages of the RV and NVIX sub-sample buckets, and regress the averages to examine the RV–NVIX relationship at various volatility levels.

DATA ANALYSIS AND FINDINGS

The results of the computations done and the interpretation of results are presented in the following paragraphs. An examination of the volatility regime during the period of study is followed by discussion on the relationship between the NVIX and the Nifty realized volatility.

Market Volatility and NVIX

Some summary statistics on realized and implied volatility conditions in the Indian stock market during the 12-month period of study, as represented by the Nifty realized volatility and the Nifty NVIX, are presented in **Table 2**. The monthly averages of Nifty volatility and NVIX are given in **Table 3**.

The period from November 2019 to October 2020 had high average volatility (24.79 per cent) and extremely high volatility during the months of March 2020 (50.50 per cent), April 2020 (72.74 per cent) and May 2020 (36.49 per cent), as shown in table 2 and table 3. The NVIX was higher than the Nifty realized Volatility (RV) from November 2019 to January 2020, and then from June 2020 to

Table 2: Descriptive Statistics on Nifty Realized Volatility & NVIX

Statistic	Nifty realized Volatility (Annualized, %)	NVIX
Mean	24.79	26.59
Min.	8.01	10.53
Max.	88.64	83.61
Range	80.64	73.08
Q1	13.51	16.97
Q2 (Median)	16.47	22.71
Q3	25.72	30.28
Q4	88.64	83.61

Table 3: Monthly Averages of Nifty Realized Volatility & NVIX

Month	Nifty Realized Volatility (Annualized, %)	Average NVIX
Nov-19	8.17	15.32
Dec-19	8.60	12.84
Jan-20	11.30	14.94
Feb-20	15.58	15.36
Mar-20	50.50	53.06
Apr-20	72.74	45.00
May-20	36.49	36.98
Jun-20	23.86	30.24
Jul-20	16.66	25.18
Aug-20	14.49	21.21
Sep-20	15.00	21.08
Oct-20	18.36	21.58

October 2020 i.e. months with relatively lower volatility. However, the NVIX fell way below (45.00) the realized volatility in April 2020 when the average volatility was the highest (72.74 per cent).

The daily values of the Nifty price, the NVIX, and corresponding values of the Nifty realized Volatility (RV) are plotted in **Figure 1**. The RV on a trading day is the annualized volatility of daily returns on the recent 30 calendar days, i.e. around 20 trading days.

Nifty Realized Volatility and NVIX Implied Volatility Relationship

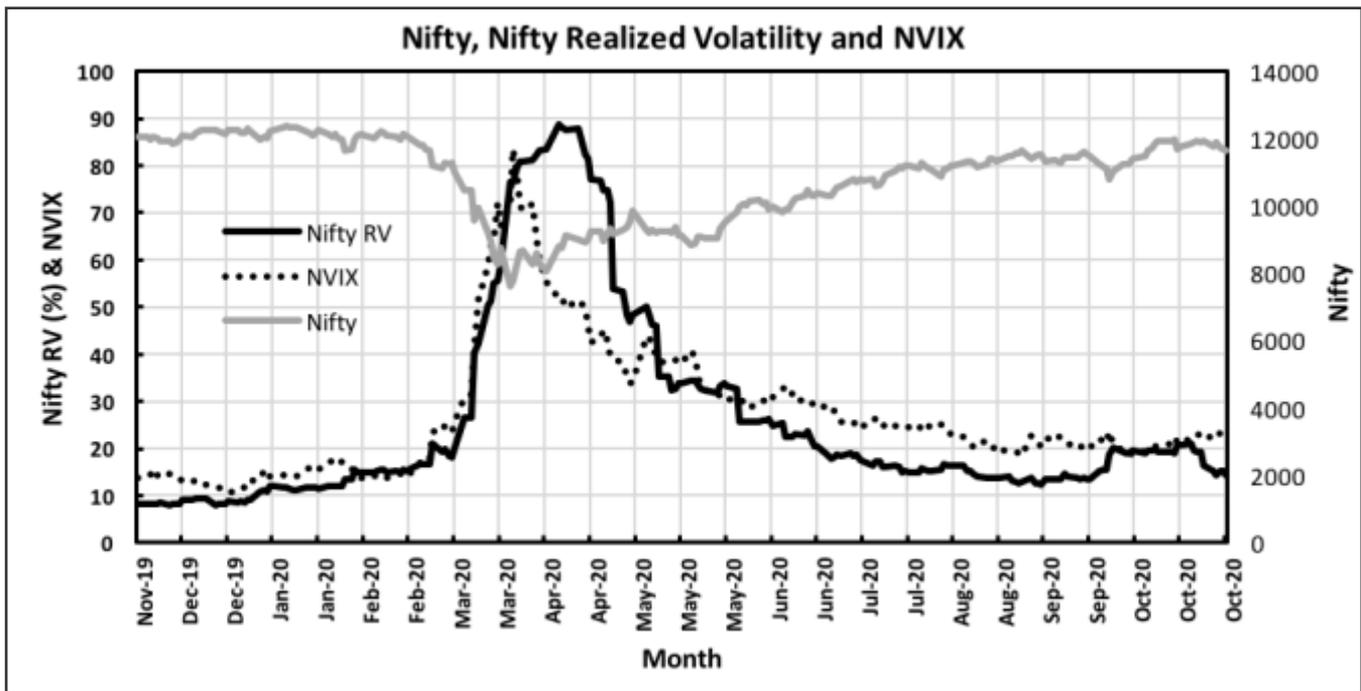


Figure 1: Nifty, Nifty Realized Volatility & NVIX (November 2019-October 2020)

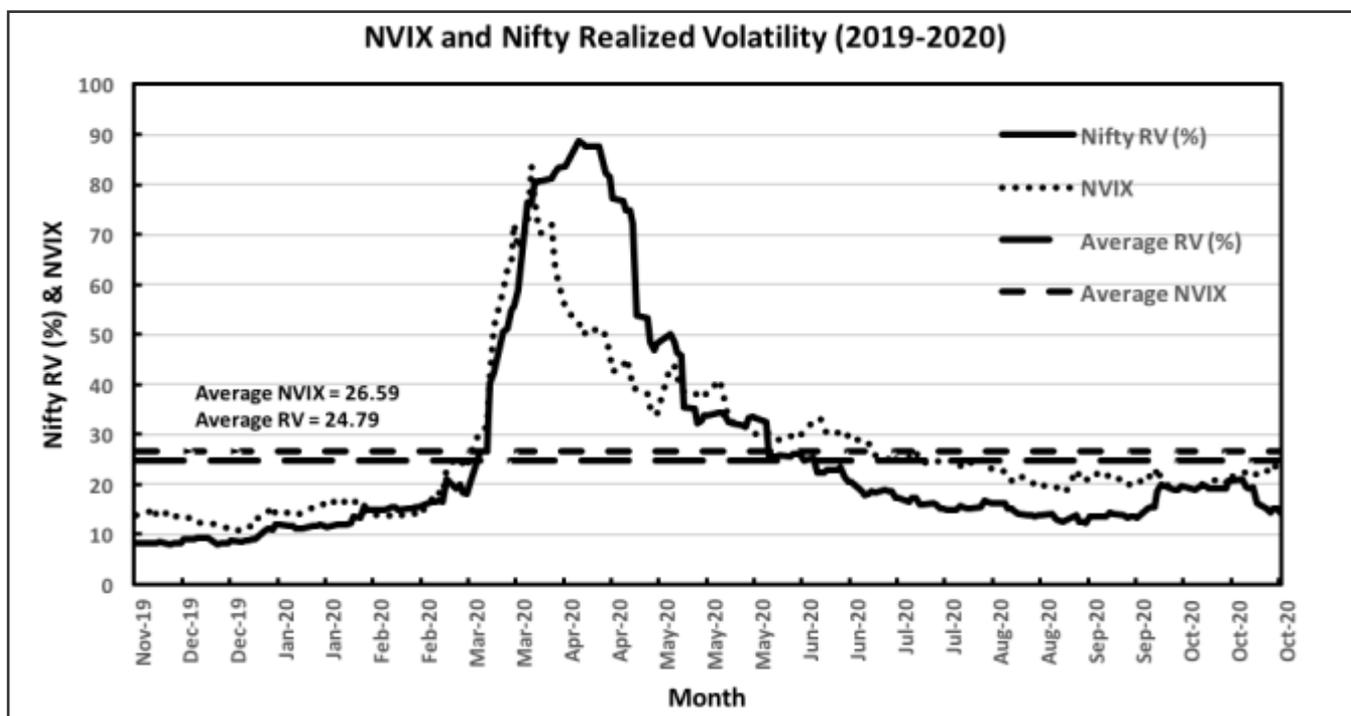
Nifty, Nifty realized Volatility & NVIX (November 2019-October 2020)

The extremely-high market volatility and NVIX levels were triggered by Nifty's deep dive starting from around 20 February 2020 and culminating on March 23, 2020, as can be observed from figure 1. As the market pulled out of the bottom, the NVIX started to fall but the Nifty volatility stayed higher than the NVIX until around the third week of May 2020. As the Nifty regained lost ground, the Nifty volatility fell below the NVIX and stayed so for the rest of the period.

The Nifty realized volatility and the NVIX during November 2019 to October 2020 are plotted alongside their full period averages in **Figure 2**. The figure shows that, on an average, both the

Nifty-realised Volatility (24.79 per cent) as well as the NVIX (26.59 per cent) was high during the 12-month period. Their levels peaked in March 2020 and April 2020, with the Nifty-realised volatility peaking later but higher than the NVIX. The relatively early peaking of the NVIX may be due to the fact that the impact of global selloff of March 2020 manifested in the current Nifty level faster and the short-term traders used options to capitalize on the Nifty movements (Moran and Liu, 2020). On the other hand, due to the method of computation of Nifty daily volatility (20-day sliding window), the days of extreme Nifty movements kept occurring in the Nifty realized volatility for many days.

Figure 2: NVIX and Nifty Realized Volatility (2019-20)



Now, for a deeper insight into the NVIX volatility premium over the Nifty realized volatility, the data set is apportioned into percentile buckets of roughly one-tenth the values each, after sorting the

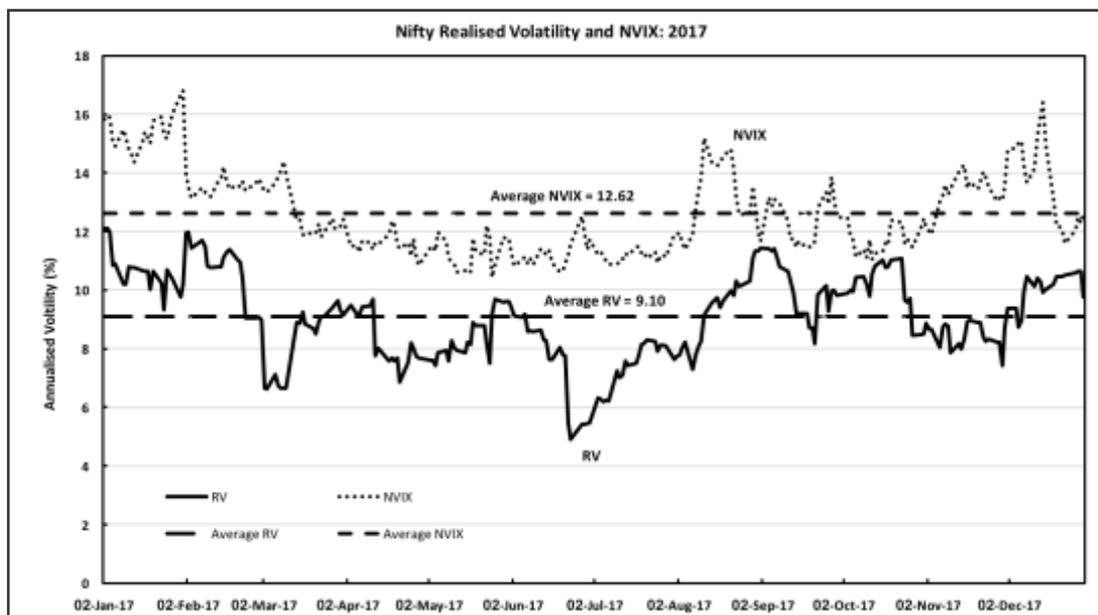
data on Nifty realized volatility values from low to high. The NVIX and the Nifty Realized Volatility averages for each percentile bucket are shown in **Table 4**.

Table 4: Nifty Realized Volatility & NVIX (2019-2020): percentile averages

Percentile Bucket	Lowest RV (%)	Highest RV (%)	Avg. RV (%)	Avg. NVIX	Avg. NVIX – Avg. RV Difference
Bucket 1 (Lowest RV)	8.01	9.42	8.55	12.81	4.26
Bucket 2	9.44	12.25	11.48	15.35	3.87
Bucket 3	12.48	13.89	13.38	20.31	6.93
Bucket 4	14.00	15.23	14.82	19.55	4.73
Bucket 5	15.27	16.40	15.74	21.48	5.74
Bucket 6	16.42	18.97	17.80	23.70	5.90
Bucket 7	19.04	21.12	19.81	22.25	2.44
Bucket 8	21.58	32.57	25.95	31.01	5.06
Bucket 9	32.59	51.26	40.21	39.92	-0.29
Bucket 10 (Highest RV)	53.25	88.64	75.72	56.86	-18.86

The NVIX percentile averages are generally higher than the corresponding Nifty Realized Volatility averages, with the exception of the highest volatility percentiles, i.e. buckets 9 and 10 (table 4). The bucket 9 has a lower bound of annualized volatility at 32.59 per cent. From the table, it is seen that the NVIX generally contains a volatility premium over and above the Nifty realized volatility. However, the volatility premium vanishes at extremely high volatility levels, that is, Nifty realized volatility (annualized) of around 32 per cent or higher.

In order to validate this finding further, the daily values of the NVIX and the Nifty realized Volatility during the year 2017 are shown in **Figure 3**. The year 2017 was a relatively calmer year from volatility point of view with an average Nifty realized volatility of just 9.20 per cent as compared to 24.79 per cent for the period of the study. It is interesting to note from the figure that in 2017 the average NVIX level (12.62 per cent) was higher than the average realised volatility (9.20 per cent) by around 3.52 points. In other words, during 2017, the NVIX included a volatility premium of 3.52 points.

**Figure 3: NVIX and Nifty Realized Volatility during 2017**

It can therefore be concluded that the NVIX generally contains a volatility premium over and above the Nifty realized volatility but the premium vanishes during periods of extremely high volatility, i.e. periods when the annualized Nifty realized volatility exceeds ~32 per cent.

Hypothesis H₀₁ is, therefore, accepted for Nifty realized volatility levels of up to 32 per cent and rejected for higher volatility levels.

Relationship between the NVIX and the Nifty Realized Volatility

Building upon the observations made above, a possible linear/near-linear relationship between the NVIX and Nifty realized volatility is now explored. The daily values of Nifty realized volatility and the NVIX for the period of study are plotted in **Figure 4** and a linear regression line is fitted. The fitted regression line has very high R² (~0.80), indicating a linear/near-linear relationship. Also, from the figure, it is noted the dispersion in the levels of the NVIX for a given level of RV increases with the increasing level of Nifty realized volatility.

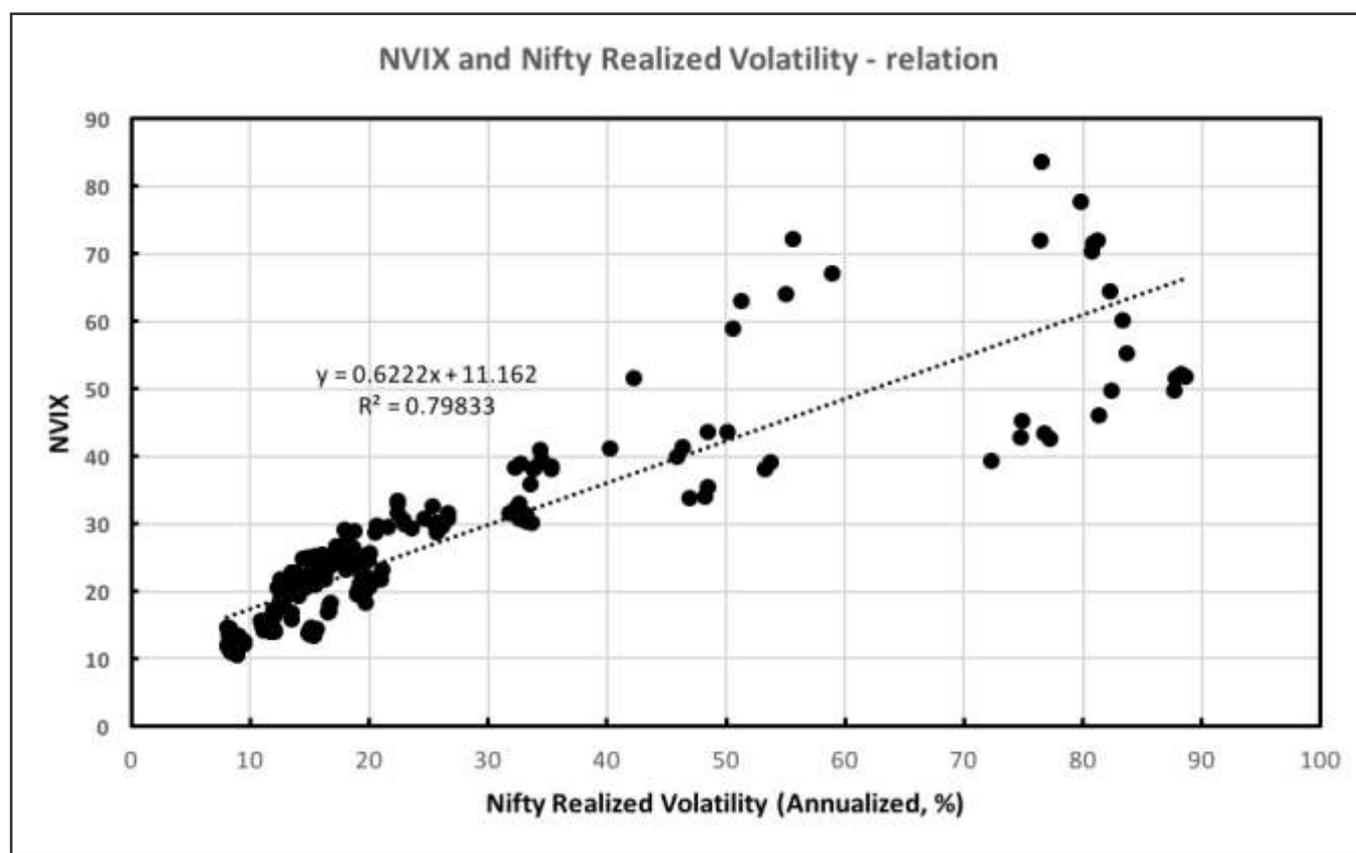


Figure 4: NVIX and Nifty realized Volatility relationship (2019-2020)

To get a deeper insight into the NVIX-RV relationship along the volatility scale, it is interesting to examine the NVIX percentile averages and the RV percentile averages given in table 4. These bucket averages have been plotted in

Figure 5. From the figure, it is seen that the average NVIX stays above the average RV for most percentile buckets but falls below the average RV in case of the highest volatility percentiles, i.e. buckets 9 and 10.

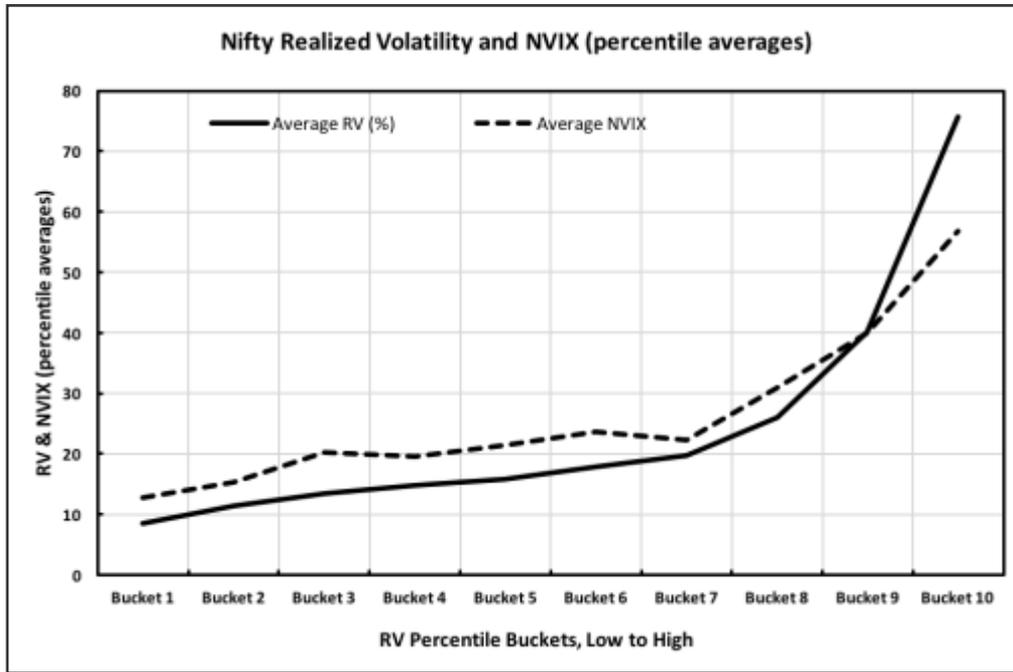


Figure 5: RV and NVIX (Percentile averages, 2019-2020)

A scatter chart of the percentile bucket averages of the RV and the NVIX (table 4) is shown in **Figure 6** and a linear regression line is fitted. The R^2 of 0.96 now is even better than the R^2 (0.80) of the NVIX-RV daily values regression line (figure 4). This confirms the existence of a strong linear relationship between the NVIX and the Nifty

realized volatility during the period from November 2019 to October 2020.

Hypothesis H_{02} is therefore accepted, i.e., there is a strong linear relationship between the NVIX and the Nifty realized volatility at all volatility levels during the period from November 2019 to October 2020.

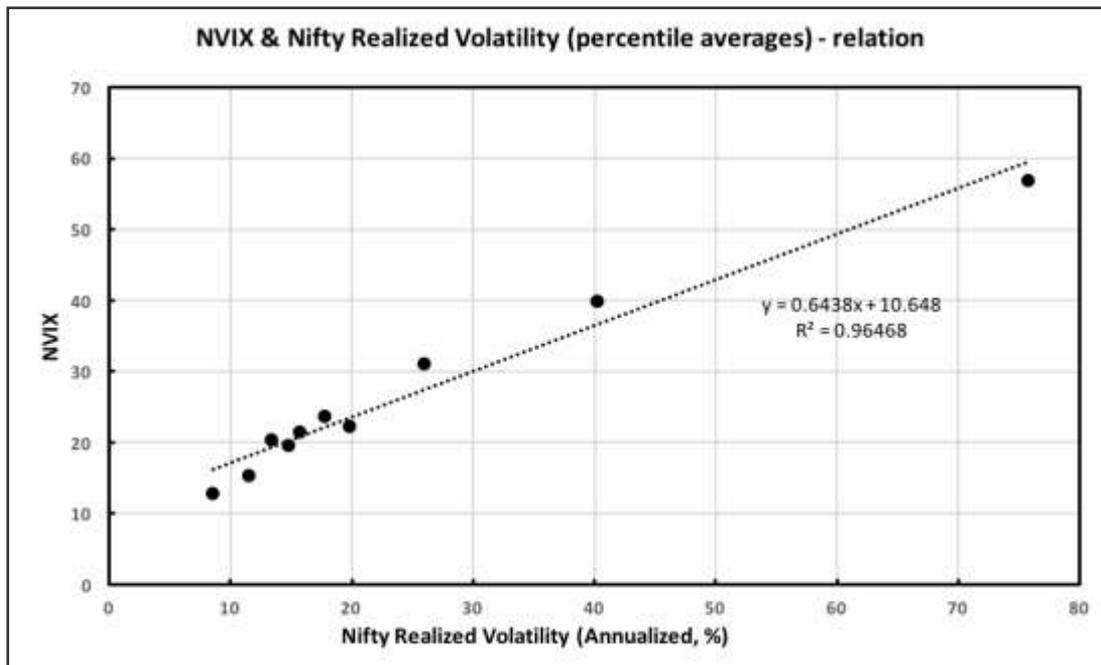


Figure 6: RV and NVIX relationship (Percentile averages, 2019-2020)

The finding that there is a strong linear relationship between the NVIX and the Nifty realized volatility at all volatility levels from low to high, partially contradicts Edwards and Preston (2017), who found that though there is a strong linear/near-linear relationship between the VIX and the S&P 500 realized volatility, the relationship does not hold at high volatility levels. The present study, however, supports the findings of Shaikh and Padhi (2014) and Chandra and Thenmozhi (2015) on the India VIX and the Nifty realized volatility relationship, though they have used a different methodology.

CONCLUSION

The study follows the methodology suggested by Edwards and Preston (2017) to examine the relationship between the NSE's volatility index, the India VIX (NVIX), and the realized volatility of the NSE Nifty index during the period from November 2019 to October 2020, a 12-month period of high average volatility (24.79 per cent), high volatility range (80.64 per cent) and extremely high volatility during the months of March 2020 (50.50 per cent), April 2020 (72.74 per cent) and May 2020 (36.49 %). The NVIX was higher than the Nifty realized Volatility from November 2019 to January 2020, and then from June 2020 to October 2020, i.e., the months with relatively lower volatility. However, the NVIX erased its-usual volatility premium over the realized volatility from February 2020 to May 2020, the months of extremely high volatility. The existence of the volatility premium is further confirmed by examining the percentile averages of the NVIX and the Nifty realized volatility. It was found that the NVIX had higher percentile, averages for all percentiles excepting the two highest percentiles containing the values of around 32 per cent or higher. It is therefore, concluded that the NVIX generally contains a volatility premium over and above the Nifty realized volatility. However, this premium vanishes during the periods of extremely-high volatility, i.e., the periods when the annualized Nifty realized volatility exceeds ~32%.

The relationship between the NVIX and the Nifty-realised volatility was examined by fitting a linear regression line, first by using their daily values, and

then, for more nuanced insights, by bucketing the values according to the volatility percentiles. The study has revealed a strong linear relationship between the NVIX and the Nifty-realised volatility across the entire volatility scale during the period of study. The NVIX performs well even during high market volatility. This result partially contradicts the findings of Edwards and Preston (2017), in the context of the relationship between the VIX and the S&P 500 realized volatility under high volatility, but supports the findings of Chandra and Thenmozhi (2015) and Shaikh and Padhi (2014) on the India VIX and the Nifty realised volatility.

Practical Implications and Suggestions for Future Research

The volatility indices like the CBOE VIX and the NSE India VIX (NVIX), are inputs to building hedging strategies, and are an asset class by themselves. Their ability to predict the future volatility is, therefore, extremely valuable for the options traders in their investment decisions, and, for the stock exchange administrations as forward indicators of high volatility conditions.

This study reveals that the NVIX contains a general volatility premium over and above the Nifty realised volatility, and there is a strong linear relationship between the NVIX and the Nifty volatility, even under the extremely high volatility. These findings point to the possibility of building an empirical model for forecasting future market volatility on the basis of current Nifty volatility and the NVIX level. Such a model would be of great practical value to the investors and stock exchange administrations alike.

Further empirical research on the predictive power of the NVIX can be done by considering a longer time horizon that includes multiple periods of low and high volatility. Such studies can provide deeper insights into the NVIX - Nifty volatility relationship.

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Language is an anonymous, collective, and unconscious art;
the result of the creativity of thousands of generations.

– Edward Sapir, anthropologist,
linguist (1884-1939)



Better than a thousand days of diligent study is one day with a great teacher.

– Japanese proverb

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1. The reviewer should begin with a listing of the bibliographical details of the book, comprising the name(s) of the author(s), full title and sub-title of the book (as they appear on the cover), details of the place and name of the publisher, year of publication, number of pages in the book, whether hardbound or paperback, and the price, if mentioned.
2. The review can range from 1000 to 3000 words, depending on the topic and the importance of the book.
3. The review should engage with the theme of the book and the issues and problems raised, and should make a rigorous attempt to identify and assess the main arguments put forth by the author.
4. The review should be written in the manner and style that would qualify it as a short article in its own right.
5. The reviewer should provide a confirmation that the review has not been released for publication elsewhere, and that the author shall cede the copyright, if it is accepted for publication in *NICE Journal of Business*.
6. The book under review should have been published recently, preferably in the current or the previous year, and be preferably the new release.
7. The reviewer should also comment on the stylistic aspect and literary presentation of the book.
8. Bibliographical references may be avoided. If the references are considered essential, the citation style adopted by *NICE Journal of Business* should be used.

Thus, the review should be an objective assessment of the book, indicating its specific strengths and weaknesses and an overall assessment.

MEASURING THE INFLUENCE OF SOCIAL-MEDIA SELF-EFFICACY ON STUDENTS' PERCEIVED EMPLOYABILITY

Komal Nagar

Abstract

Purpose: *The present study seeks to develop an integrated model on the perceived employability of university students, based on their multi-tasking behaviour with social media.*

Design/methodology/approach: *The study is based on the primary data collected from a sample of 316 university students, selected through stratified sampling. The study uses the Structural Equation Modelling (SEM) for developing a model after validating it through Exploratory and Confirmatory analyses.*

Findings: *The model seeks to explain the relationship between the social media multi-tasking among university students and the factors predicting their perceived employability. The study reveals statistically valid and reliable measures for the factors affecting the students' perceived employability.*

Practical implications: *The model seeks to explain the perceived employability of university students and validates the multi-tasking self-efficacy, 'fear of missing out' and social media multi-tasking as predictors of the students' perceived employability that can be used for future studies in behavioural psychology and education.*

Limitations/Future Research: *The study is limited in its scope due to the smaller sample in relation to the actual population of students, which was limited exclusively to the university students. This may limit the generalisability of results to the younger population.*

Originality/ value: *An integrated model has been developed to explain the students' perceived employability. The study contributes to the existing literature by empirically testing the factors contributing to multi-tasking on social media platforms.*

Key words: *Social-media multi-tasking, Social-media self-efficacy, Fear of missing out, Perceived employability, Structural Equation Modelling*

INTRODUCTION

Portability of media devices has allowed people to access social media anytime and anywhere. This phenomenon is even more prominent among university students, who are heavy social media users (Lau, 2017). Today's classrooms in higher education are filled with students who have their own portable computers and smart phones. Students are constantly connected to social networking sites with the pervasive information and communication technologies that have created a multi-tasking generation (Lau, 2017). While studies in the past have raised concerns regarding the potential negative effects of social media on the youth, Cox and McLeod (2014) found that social media fostered communication among teachers, students, parents, and community members, and helped create online professional learning communities.

Furthermore, not only do students engage heavily in the social media, the constant availability of media has led to an increase in the media multi-tasking behaviour (Rideout, Foehr and Roberts, 2010). People have been multi-tasking or engaging on two or more tasks simultaneously, since long. However, the concept of social media multi-tasking is a recent phenomenon. For the students, especially, social media multi-tasking is significant, as the way the young generation communicates and exchanges information has implications for employment opportunities. Today's university students can be called *multi-taskers*, who perform multiple tasks while doing their homework, studying, and listening to a lecture (Walus, 2008). Apart from using social media for communicating on social networks, this platform is increasingly being used by many organisations to post their job vacancies and are also finding potential employees through these networking sites (Kibbe, 2009). Consequently, an increase in multi-tasking with technology for academic purposes, especially social media, has opened up prospects for students to reach out to potential employers (Wallis, 2010).

However, despite an increasing number of studies on media multi-tasking, our understanding of the potential effects of media multi-tasking on youths' functioning remains limited. Precisely for these reasons, understanding what factors drive students

to engage in social media multi-tasking becomes pertinent. Furthermore, the question of immediate interest for all the stakeholders today is the understanding of how social media multi-tasking might affect students' perceived employability. The present study will contribute to the social media multi-tasking literature by exploring the relationship between social media multi-tasking self-efficacy, fear of missing out and students' perceived employability. This study addresses the impact of students' self-efficacious beliefs on efficiently managing their social media multi-tasking activities in order to enhance their employability prospects.

REVIEW OF LITERATURE

While researchers in the past have studied the effect of social media on academic performance, a detailed analysis, focusing on the key research questions discussed in the introduction section, is missing. Extant research in the past does not provide insights into the changing landscape of social media connections and how to exploit and capitalise them for building career opportunities for graduates. The present study aims to bridge this gap as there is not a great deal of published research related to university students' employability in the context of social media multi-tasking. Although the subject of social media multi-tasking is an interesting area of investigation, not much research has been conducted in the Indian context. Major studies in the related areas have been reviewed in the following paragraphs.

Studies on Social Media Multi-tasking

The studies show that students are great multitaskers and use the technology on a daily basis for educational, job and personal use (Walus, 2008; McAllister, 2009). According to Tanner, Stewart, Maples, Totaro and Gaines (2008), multi-tasking by students mostly involves the use of cell phones for texting and accessing social networking sites (Facebook, YouTube, LinkedIn etc.). The pervasiveness of wireless networks and Internet-connected smart phones allows students to engage in multi-tasking activities, from web-browsing and texting to social-computing in classroom settings. Studies show that multi-tasking causes distraction,

decrement in memory, divided attention during in-class learning, and decrease in individuals' productivity and performance (Wood *et al.*, 2012). Media multi-tasking has been found to have a negative impact on cognitive performance and functions, such as academic performance (e.g., Junco, 2012). Wang and Tchernev (2012) found that students sacrificed performance on cognitive tasks for entertainment gains by engaging in media multi-tasking activities. Evidence supports this assertion as students reported multi-tasking 56.5% of the time while using the Internet (Moreno *et al.*, 2012).

Gastelum and Whattam (2013) reported that social media comes in a variety of forms including social networking sites, microblogs, blogs, chat platforms, open-source mapping, and photo and video-sharing. While the majority of researchers have documented the use of media multi-tasking for non-academic purposes, there is some acknowledgment that many situations in today's workforce require multi-tasking with different media as a necessary skill (Freedman, 2007). Given the increase in the demand to engage in multi-tasking and the increasing prevalence of portable digital devices that allow such multi-tasking to occur, multi-tasking with technology in educational context is becoming increasingly important.

Studies on Social Media Self-efficacy and Social Media Multi-tasking

Social media self-efficacy refers to the judgment of one's ability to engage in multiple social media platforms effectively. According to Bandura (1997), social media self-efficacy is derived from the average of a person's (a) perceived social media skill; (b) confidence in the ability to successfully obtain information online; (c) level of social media content-production; and (d) level of social media content consumption. Furthermore, self-efficacy beliefs are considered to be specific to a particular task, such that a person with higher self-efficacy will tend to exhibit certain positive personal qualities, such as persistence, strategic planning and high achievement (Bandura, 1977). Tower, Latimer and Hewitt (2014) showed that the social

media platforms had the potential to increase the self-efficacy of students.

Furthermore, recent research has found that multi-tasking behaviour are more evident in online classrooms compared to traditional classes (Lepp, Barkley, Karpinski, and Singh, 2019) such that students tend to multitask when using computers (Judd and Kennedy, 2011) for purposes other than note-taking (e.g., browsing websites, e-mailing, watching videos, listening to music). Studies also suggest that students' self-efficacy affects task choice, effort, persistence, resilience, and achievement (Zhang, 2015) and was therefore indirectly associated with in-class laptop multi-tasking through self-regulating behaviours. This suggests that students who are confident in their capability to learn (self efficacy) are more persistent in accomplishing difficult tasks (such as multi-tasking).

From the perspective of self-efficacy theory (Bandura, 1997), self-efficacious social media users should have more confidence and experience in using multiple social media platforms than those lower in social media self-efficacy. These users are, therefore, likely to be more familiar with such sources than those lower in social media efficacy. Given that students consider themselves as having the skills to exercise control over the challenging demands posed by the social media, they are also likely to engage more in social media activities, often shifting the attention from one social-media platform to another, resulting in social-media multi-tasking. In the light of the above discussion, it is hypothesised that:

H₁₁: Social media self-efficacy has a positive relation with social-media multi-tasking.

Studies on 'Fear of Missing Out' and Social-Media Multi-tasking

The fear of missing out (FoMO) refers to the "pervasive apprehension that others might be having regarding experiences from which one is absent" (Przybylski *et al.*, 2013, p.1842). The recent surge in the social media-usage and the possibility of constantly staying connected to the social networks through mobile devices has

triggered the FoMO (Wegmann *et al.*, 2018). Individuals experiencing the FoMO have a desire to stay connected online, resulting in the Internet addiction, social-media addiction (Kartol and Gündoğan, 2020; Chen and Cheung, 2019). In order to compensate for the negative emotion of the FoMO, individuals feel the urge to use smart phones (Chotpitayasunondh and Douglas, 2018; Elhai *et al.*, 2018). Considering that the FoMO is a negative state in which individuals fear missing important events occurring in the social media (Al-Saggaf and O'Donnell, 2019). They explore the multiple media as a viable option to be constantly connected to social-media (Wolniewicz *et al.*, 2018) which in turn is found to enhance multiple social media use (Elhai *et al.*, 2020). Interestingly, few studies have been conducted to understand the relationship between the FoMO and the social-media multi-tasking, demonstrating that the FoMO is a factor that can explain multi-tasking behaviour.

The FoMO is a form of anxiety that possibly contributes to an increase in the use of digital technology (Rosen *et al.*, 2018). Apprehension from the FOMO brings missing pleasurable experiences, with the need to constantly stay connected with the members of one's social network (Elhai, 2019). This can explain the potential use of multiple social media among individuals, with a high fear of missing out. Based on the above discussion, it is hypothesised that:

H_{a2}: The fear of missing out is positively related to social-media multi-tasking.

Studies on Social-Media Multi-tasking and Perceived Employability

Most of the studies on social-media multi-tasking have focused on its negative impact on individuals, particularly the students. However, with a recent change in the way the students use the Internet for job-searching; social media provides opportunities to multi-task. In this context, employability is a critical issue for the students who see it as the objective of a successful university course (Nauta *et al.*, 2009).

Hillage and Pollard (1998) defined employability as 'having the capability to gain an initial employment, maintain employment and to obtain new employment, if required'. The perceived employability is the individual's subjective perception of his/her capacity for obtaining and retaining a job and obtaining a new one, if required (Hillage and Pollard, 1998; Kim *et al.*, 2015). According to Rothwell and Arnold (2007), self-perceived employability refers to the characteristics needed to secure a job that corresponds to one's interests and goals. Self-perceived employability appears to be related to higher perceived marketability (De Vos, De Hauw, and Van der Heijden, 2011).

The literature indicates that the employers of new graduates consider social skills more important than the degree qualification (Nauta *et al.*, 2009). As a result, social media skills are viewed as important, with employers expecting graduates to be well-versed in the use of online social media. To stay relevant and current throughout the evolution of the digital landscape, professionals have had to adapt and increase their knowledge and skill-sets (Gesualdi, 2019). According to Sutherland *et al.* (2020), social-media skills are most sought after by employers of university graduates ahead of proficiency in areas such as social media content production, strategy development and analytics. Employers have particular needs and expectations with regard to their online presence as well as work related digital skills (Echenique, Molías, & Bullen, 2015). Similarly, Freberg and Kim (2018) explored the industry perceptions of social media professionals in relation to their expectations of social media proficiency of university graduates and found that industry professionals perceived social media skills and knowledge for university graduates to have when entering the workforce. More recently, Meacham & Ross (2020) examined the employer expectations of social-media skills among university graduates and found that competence in using technologies, such as Google docs, Facebook groups, Twitter, LinkedIn, Google+, Blogs, and mobile apps, were highly sought-after by employers of university graduates. These studies suggest that the density of the social network of connections is a significant determinant

of career success. The role of personal contacts or social network in perceived employability is considered one of the aspects of employability in students (Hernández-Fernaud *et al.*, 2011). We, therefore, expect to find a relationship between the students' social media multi-tasking and their perceived employability.

H₃: University students' social-media multi-

tasking (for academic purposes) is positively related to their perceived employability.

The proposed research model, along with the hypothesised relationships between the four constructs: social media self-efficacy, fear of missing out, social media multi-tasking, and perceived employability. These are shown in **Figure 1**.

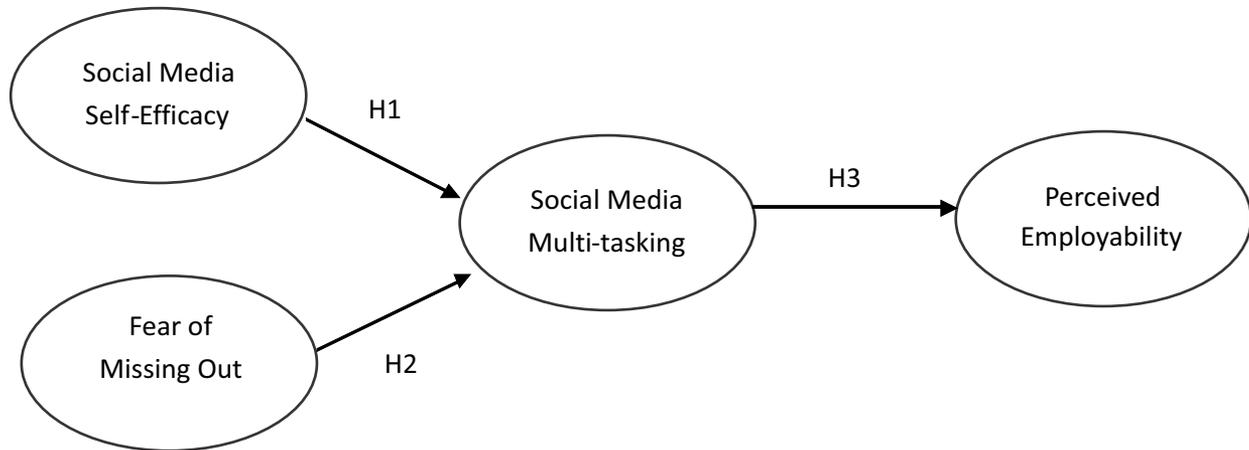


Figure 1: Proposed Research Model

OBJECTIVES OF THE STUDY

The overall purpose of this study is to explore the relationship among the fear of missing out, social media self-efficacy, social media multi-tasking and the perceived employability among university students. The study has the following two objectives:

1. To measure the influence of university students' social media self-efficacy and the fear of missing out on their social media multi-tasking; and
2. To ascertain the relationship between social-media multi-tasking and the students' perceived employability.

RESEARCH METHODOLOGY

The research methodology for this study has two parts. In the first part, a theoretical analysis was

conducted based on the review of literature from scholars. In the second part, a pragmatic approach was adopted, by gathering information about the constructs and their underlying factors. In order to get a true insight into the consumer's perspective, a field survey was conducted.

Generation of Scale Items

A sample of 316 students, based on convenience, was chosen from a large university in north India. Out of 350 questionnaires, only 316 questionnaires were complete in all respects. The questionnaire consisted of 23 statements, covering all the four variables, including the social media self-efficacy, fear of missing out, social media multi-tasking and the perceived employability. Each variable was measured using a previously-developed scale.

Measures

The scales used in the study and their sources are summarised below:

Social media self-efficacy

The social media self-efficacy scale was adopted from the work of Bandura (2006).The scale included a seven-item measure of social media self-efficacy. Some of the items included 'I can easily surf the social media accounts for non-academic purposes while studying and still study efficiently', $\alpha = 0.76$).

'Fear of missing out'

A nine-item measure of 'fear of missing out' was adopted from the work by Przybylski *et al.* (2013) rated on 5-point Likert scale. The items measuring variety-seeking behaviour included: 'I get worried when I find that others are having fun without me on Facebook', $\alpha = 0.79$).

Social-media multi-tasking

A three-item measure of social-media multi-

tasking (*e.g.*, 'I do social media multi-tasking while studying' $\alpha = 0.78$) was adopted from Ozer (2014).

Perceived employability

A four-item measure of perceived employability (*e.g.*, 'I am confident that I will find a job if I started searching', $\alpha = 0.84$), adopted from Rothwell and Arnold (2007).

Sample Profile

A total of 316 valid responses were analysed to study the relationship between the variables. The profile of the respondents can be seen in **Table 1**. Most of the respondents (about 55 per cent) were in the age group of 20-25 years. The rest were in the age group of 26-30 years (about 44 per cent). Also, the majority of the respondents were females (about 56 per cent)

Table 1: Respondents' Profile: Sample Characteristics

S. No.	Variable	Frequency	Percentage
1	Age group		
	20-25 years	176	55.70
	26-30 years	140	44.30
2	Gender		
	Male	137	43.35
	Female	179	56.65

DATA ANALYSIS AND FINDINGS

Results of the Measurement Model

The SEM for the study examined the two levels of analysis, namely, the measurement model and the

structural model. The means, standard deviations, and correlations matrix among the social media self-efficacy, 'fear of missing out', social media multi-tasking and the perceived employability are shown in **Table 2**.

Table 2: Means, Standard Deviation and Correlations of the Constructs

Constructs	Mean	Standard Deviation	A	B	C	D
A. Fear of Missing Out	4.16	1.17	1			
B. Social Media Self –Efficacy	4.29	1.29	0.47**	1		
C. Social Media Multi-tasking	4.58	1.78	0.59**	0.51**	1	
D. Perceived Employability	4.61	1.43	0.42**	0.39**	0.35**	1

**Correlation significant at $p < 0.01$

All the four constructs in the study could be grouped into one factor. The overall variance explained by the four factors was 52.1 per cent, which is more than the minimum acceptable level of 50 per cent. The study referred to previous studies to design the questionnaire items. With respect to the quality of the measurement model for the sample, the loadings of all items of the four constructs, listed in **Table 3**, are significant.

Cronbach's alpha for the constructs is demonstrated

in **Table 3**. In general, the minimum requirement of Cronbach's alpha co-efficient is 0.7 (Hair *et al.*, 2010). It can be observed that the Cronbach's alpha co-efficient of 'fear of missing out' is 0.871; that of 'social media self efficacy' is 0.824; that of 'social media multi-tasking' is 0.853; and that of 'perceived employability' is 0.759. Because the Cronbach's alpha co-efficients of all the four constructs are more than 0.70, the measurement of this study is acceptable in reliability.

Table 3: Item-Loadings, the Construct's Cronbach's Alpha and AVEs

Constructs	Items	Item	Cronbach's Loadings	AVE Alpha	Square root of AVE
A. 'Fear of Missing out'	FM1: I fear others have more rewarding experiences than me	0.783	0.871	0.763	0.873
	FM2: I fear my friends have more rewarding experiences than me	0.756			
	FM3: I get worried when I find out my friends are having fun without me	0.623 0.658			
	FM4: I get anxious when I don't know what my friends are up to	0.614			
	FM5: Sometimes, I wonder if I spend too much time keeping up with what is going on	0.515 0.526			
	FM6: It bothers me when I miss an opportunity to meet up with friends	0.541 0.523			
	FM7: When I miss out on a planned get-together it bothers me				
	FM8: When I go on vacation, I continue to keep tabs on what my friends are doing				
	FM9: It is important that I understand my friends "in jokes"				
B. Social Media Self-efficacy	SE1: I can easily surf my social media accounts for non-academic purposes (i.e. for enjoyment) while studying and still study efficiently.	0.591 0.780 0.691	0.824	0.815	0.903
	SE2: I can chat on social media with friends while studying and still study efficiently.	0.558 0.538			
	SE3: I can connect with friends on social media accounts while studying and still study sufficiently.	0.541			
	SE4: I am typically connect on social media while studying and still study sufficiently	0.589			
	SE5: I can use social media accounts for non-academic purposes while studying and still study sufficiently.				
	SE6: I cannot use any form of social media while studying as it distracts me. (R)				
	SE7: I am at ease multitasking on social media while studying				
C. Social Media Multi-tasking	SMM1: I engage in social media multitasking while studying	0.566	0.853	0.856	0.925
	SMM2: I remain online with my social media accounts while doing my academic work	0.652 0.571			
	SMM3: I do not check my social media accounts while I am studying (R).				
D. Perceived Employ-ability	SMF1: I believe I can immediately find a job matching my capabilities	0.694 0.656	0.759	0.738	0.859
	SMF 2: It will be difficult for me to find a job after completing my degree (R)	0.542			
	SMF 3: I am confident that I will find a job if I started searching	0.531			
	SMF 4: I believe I could easily obtain a job that is in line with my level of education and experience				

Furthermore, Fornell and Larcker's measure of average variance extracted (AVE) to assess the discriminative validity of the measurement (Fornell and Larcker, 1981). The AVE measures the amount of variance captured by the construct through its items relative to the amount of variance due to the measurement error.

In order to satisfy the requirement of the discriminative validity, the square root of a construct's AVE must be greater than the correlations between the construct and other constructs in the model. For example, the square roots of the AVEs for the two constructs fear of missing out and social media self-efficacy, are 0.873 and 0.903 in **Table 4**, which are more than the correlation between them, i.e. 0.47, as shown in **Table 2**. This demonstrates that there was adequate discriminative validity between the two constructs. The square roots of all constructs' AVEs in **Table 4** are all greater than the correlations among all constructs in **Table 2**. Therefore, the discriminative validity of the measurement is acceptable. Also, if the AVE of a construct is greater than 0.5,

convergent validity for the construct is established. As shown in **Table 4**, the AVEs of the four constructs are greater than 0.5, indicating that there is convergent validity. Thus, the measurement is acceptable to the discriminative validity and the convergent validity.

Testing the Proposed Model

The Structural Equation Modelling (SEM) technique was used to test the model. AMOS Ver.21 was employed for this purpose. The observed variables used to predict the latent variables in the SEM were obtained by processing the data in the instrument. The results of the SEM analysis indicate that the model offers a good fit to the data.

According to Schumacker and Lomax (2004), Chi-square/degrees of freedom less than 3, GFI, NNFI, CFI greater than 0.9, AGFI greater than 0.8, RMSR less than 0.1, and RMSEA less than 0.06 or 0.08 are considered indicators of a good fit. As seen in **Table 5**, all goodness-of-fit statistics are in the acceptable ranges.

Table 5: Summary Statistics of Model Fit

Fit index	Recommended values*	Observed values
Chi-square/degrees of freedom	≤ 3.00	1.54
GFI	≥ 0.90	0.91
AGFI	≥ 0.80	0.82
NNFI	≥ 0.90	0.92
CFI	≥ 0.90	0.91
RMSR	≤ 0.10	0.07
RMSEA	≤ 0.08	0.05
GFI=goodness-of-fit index; AGFI=adjusted goodness-of-fit; NNFI= non-normed fit index; CFI = comparative fit index; RMSR= root mean square residual; RMSEA= root mean square error of approximation.		

Source: Schumacker and Lomax (2004)

The results are shown graphically in **Figure 2**, along with the standardised path co-efficients. All the three paths estimated are found to be significant. Hypothesis 1 postulates that the social media self-efficacy is positively associated with the social media multi-tasking. The structural model

suggests that the direct path from the social media self-efficacy to the social media multi-tasking is found to be significant ($\beta=0.31$, $p < 0.001$). Thus, the hypothesis that increased the social media self-efficacy is positively associated with the social media multi-tasking is supported.



Figure 2: Testing the Proposed Model

Also, the direct path from fear of missing out to social media multi-tasking is significant since the regression co-efficient is 0.28, with t -value of 4.53 and $p < 0.05$. The second hypothesis, the 'fear of missing out' has a significant relationship with social media multi-tasking is therefore, accepted.

The third hypothesis is also accepted as the direct path from the social-media multi-tasking to the perceived employability is significant and the regression co-efficient is positive at 0.21, with t -value of 4.37 and $p < 0.05$. Therefore, the hypothesis that social media multi-tasking has a significant positive relationship with perceived employability is **accepted**.

FINDINGS AND IMPLICATIONS

The findings of the study have several theoretical and practical implications. Graduate employability is a topic that is gaining momentum worldwide, and India is no exception. Employers' expect that skills and abilities would be developed during a student's higher education process at university and that they would be equipped with the necessary academic abilities on completion of their studies. However, higher education may not be able to immediately meet the markets' demands as they struggle with the ability to develop skills required for the growth of

the economy. Findings of the study will help bridge this divide such that policy-makers at the university level and at the ministry of education will be able to address employability issues.

The previous literature has examined different antecedents and consequences of the social media multi-tasking. However, empirical linkages between the fear of missing out and the social media multi-tasking were not known. This gap is addressed in the present study. The first research hypothesis examined whether the social media self efficacy triggers the social media multi-tasking. The results suggest that social media self efficacy is a significant predictor of the social media multi-tasking among students. This finding is consistent with previous extended literature on the new media use which suggests that the technological self-efficacy leads to the display of expertise in the search process (Lepp et al., 2019). According to literature on the social media use, multi-tasking computer self-efficacy attenuates the effect of information overload and social media fatigue, which may result in increased preference for social media multi-tasking (Islam, et al, 2020).

The second research hypothesis (H_{a2}) investigated whether the FoMO results in social media multi-tasking. The findings suggest that the FoMO was a strong predictor ($\beta=0.28$, $p < 0.05$). Scholars have observed that the people experiencing the FoMO

are likely to constantly check social media. When the frequency of such usage increases, then they are likely to develop a usage habit, such as compulsivity (Przybylski *et al.*, 2013). In light of the findings of the earlier studies as well as those of the present results, it appears that students now-a-days demonstrate strong eagerness to keep up with the online world and are especially interested in finding out what their friends are doing.

The third hypothesis (H_{a3}) examined whether the social media multi-tasking results in increased levels of perceived employability. The study results have demonstrated that social media multi-tasking was a statistically-significant predictor of the perceived employability. Although, a majority of earlier literature suggests that the compulsive social media can use negatively affects performance (Benson, Hand and Hartshorne, 2018), the results of the present study suggest that social media multi-tasking potentially provides richer and affordable e-learning experiences, resulting in increased possibility of interaction with prospective employers.

The results of study provide empirical-based data on some of the perceived antecedents of employability with a particular focus on the role of the social media usage among students. Investigation of students' motivation to join social media and whether this is related to social elements or career prospects will help in policy-formulation related to the integration of the social media within the teaching environment.

As employers increasingly demand ICT and social networking skills for a wide range of jobs, knowledge about students' skills in the various uses of such networks will become increasingly important to explicitly embed employability needs into the curriculum, and develop such skills across each levels.

The study adopts the antecedent-consequence framework to examine the relationship between social media multi-tasking, social media self-efficacy and future employability prospects. Today's learners expect to participate in evaluating in being evaluated and to share work and feedback among their peers. The study results will enable graduates to have a desirable job-fit organization opportunity so that their skills are not mismatched

with their position.

Policy Implications

The findings have several theoretical and practical implications. The theoretical implications are as follows: First, previous literature has not yet examined the FoMO-related aspects of social media multi-tasking. Therefore, the present study is possibly the first empirical study that has examined them, thus, significantly contributing to theory development as well as previous mushrooming literature on social media multi-tasking. Second, the outcomes or consequences of social media multi-tasking have principally been studied in relation to its negative outcomes. Consequently, it was not known, other than the negative effects of excessive social media use on wellbeing, what are the positive consequences or outcomes when someone engages in social media multi-tasking. This gap is bridged by the present study by utilising the newer outcome variables not previously studied.

With respect to the practical implications, the current findings have significant implications for students, teachers, educational institutions, and employers. The research area of employability remains a critical one as the economy shrinks and competition for graduate jobs increases. There is an increasing demand for students to enter the world of work with skills which make them not only employable but also able to function competitively within the workplace. The social relevance of this research rests on the formulation of holistic academic-development plans keeping the students' performance as an indicator. Outcome of the research will help higher education undertake controlled inclusion of social media in its curriculum. Universities and institutions of higher education are answerable to the society for producing quality output in the form of intellectually-stimulated professionals. The present study will help in achieving this objective.

The results of the study may also be of interest to university teachers', students, public administration and researchers. As students engage in multi-tasking behaviours, there is a need for educators and policy-makers to set the criteria for successful use of technologies in the classroom. The challenge for educators and policy-makers at all levels of

education is to integrate technology into the classroom, and, at the same time, ensure maximisation of learning. Another key recommendation for policy-makers includes providing more information to students during their studies regarding the various uses of social media and includes high level skills in social media multi-tasking as a learning outcome.

Limitations and Future Research

Although the study took a positive approach in reviewing the previous literature on social media multi-tasking, the findings need to be considered in the light of some limitations that are worth acknowledging. These limitations include issues with the sample size in relation to the actual population of students. The constraint may have a direct impact on the possible generalisation of the research outcomes and may, therefore, call for further research using a larger sample. Also, the study sample was exclusively university students. Thus, the results may not be generalised to younger students.

The researchers in future attempting to determine the social media multi-tasking behaviour of students may like to elaborate the present study in terms of the social media usage frequency and purpose of social media use among the student population. The present research used a survey design to measure responses of the students towards their social media multi-tasking behaviour. Therefore, the study findings were based on self-reported measures. Future research might be conducted with the data from objective measures, such as observational studies, experimental designs, or attention control tasks to triangulate the results. Future researcher may combine both the survey-based measures and the experimental design that would be more accurate in measuring the real responses to social media use. Finally, an important question for future studies will be to examine whether association between cognition and media multi-tasking do exist for other types of media-multi-tasking behaviour. Future research efforts could address questions related to the association between media multi-tasking and students' academic performance. Apart from this, future studies should examine other variables and

outcomes of social media multi-tasking in relation to academic points of view, e.g., whether the social media multi-tasking influences social media fatigue among adolescents.

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Truth, like gold, is to be obtained not by its growth,
but by washing away from it all that is not gold.

Leo Tolstoy, novelist and philosopher (1828-1910)



In a completely rational society, the best of us would be teachers and the rest of us would have to settle for something less, because passing civilization along one generation to the next ought to be the highest honour and the highest responsibility anyone could have.

Lee Iacocca, automobile executive



How would you describe the difference between modern war and modern industry—between, say, bombing and strip mining, or between chemical warfare and chemical manufacturing? The difference seems to be only that in war the victimisation of humans is directly intentional and in industry it is “accepted” as a “trade off”.

Wendell Berry, farmer, author

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EFFECT OF PERCEIVED USEFULNESS AND EASE OF USE ON MOBILE APP-BASED SHOPPING

An Empirical Study among Selected Demographics

Neeru Kapoor and Chandan Kumar

Abstract

Purpose: *The study seeks to gain an understanding about consumer's mobile app-based shopping and develop appropriate studies for marketers to use the mobile applications as a better tool of selling over the brick-and-mortar shops.*

Design/methodology/ approach: *For the purpose of gathering primary data, a survey was conducted with the help of a structured questionnaire. The data was collected from 1498 buyers. The Multinomial Logistic Regression Model was used to examine the factors which determine consumers' response to mobile app-based shopping. The demographic variables considered for the study are: age, gender, occupation, and income.*

Findings: *The study examined gender, age, income and occupational differences with respect to the preference of this medium of shopping. It revealed that the perceived usefulness and the ease of use played a significant role in the use of mobile apps as the emerging shopping medium over the traditional brick-and-mortar shops.*

Limitations: *A major limitation of the study is that it is confined to Delhi and NCR region. So, though the study provides in-depth insights into customers' perceptions about mobile app-based shopping, these insights cannot be used to form a regional or national pattern of customer choices and preferences.*

Practical implications: *It is important to engage with consumers' interest by designing mobile apps which provides comfort, convenience, utility, cost-saving, and captivating content for all demographics of consumers', such as, younger and older groups and equally among the males and females.*

Originality/value: *An attempt has been made to construct a model by positioning perceived usefulness and the ease of use as the central components of the technology acceptance model (TAM) and studying the impact of demographic variables on the consumer's mobile app-based shopping.*

Key Words: *Perceived usefulness, Ease of use, Mobile app-based shopping, Technology Acceptance Model, Multinomial Logistic Model*

INTRODUCTION

Shopping through mobile applications is an emerging trend in most of the developed nations of the world. With the advent of technological developments, a new era, called the digital age, has emerged. It has brought changes in almost every aspect of life and has strongly affected the consumer's buying pattern. In this digital age, "online technology has had a significant effect on customer shopping processes and behaviours" (Thaichon, 2017). People have started buying goods and services through mobile applications, instead of going to the brick-and-mortar shops for their various requirements. With the emergence of smart phones and easy and fast access of the Internet on mobile phone through 3G and 4G spectrums, this concept has picked up fast even in India. Shopping through mobile apps, such as Amazon, Flipkart, Myntra, and Paytm, etc is picking up fast. Even the government's policies, such as the Digital India Programme, the Demonetisation, and the Jan-Dhan Yojana have added to the varied usage of smartphones. People feel more comfortable doing transactions through them. As a result of all this, many large and small business houses have moved to the online sphere (Jensen and Wagner, 2018), besides maintaining their offline presence.

Developments in the mobile technology are changing the dynamics of customer–firm relationships (Payne and Frow, 2017). Mobile apps (used on artefacts, such as smartphones and Tablets) have entered the business world, primarily as a marketing tool (San-Martín *et al.*, 2016) because they are changing customer–company interaction patterns (Viswanathan *et al.*, 2017). Consumers can now access product information and make in-app purchases while being away from their (desktop) computer or laptop (Verma *et al.*, 2016).

In turn, these patterns of access and use have caused profound changes in the customer behaviour (Juaneda-Ayensa *et al.*, 2016). The literature on mobile apps and customer-related outcomes propose several concepts and frameworks. Theories such as 'reasoned action' and 'planned behaviour' (Ajzen, 1991) and models such as the Technology Acceptance Model (TAM) (Davis,

1989) have formed the basis for investigating the outcomes, such as customer satisfaction (Shin, 2015), customer engagement (Tarute *et al.*, 2017), or intention to purchase. Our study focuses on the TAM, because it can predict customer intention and offer greater justification and validity. It also explains a large number of variances in consumer behaviour within the context of technology (Kim *et al.*, 2016 a). Moreover, the TAM is one of the most successful models for examining technology acceptance and customer adaptation in technology-related behaviour (Hernández *et al.*, 2010). The current study is trying to integrate and extend the TAM relative to the consumer's purchase intention and buying through mobile apps. It further seeks to develop a model by positioning the perceived usefulness and ease of use as the central components of the TAM and studying the impact of demographic variables on the consumer's mobile app-based shopping pattern.

REVIEW OF LITERATURE

Shopping through mobile applications is a concurrent topic of research. An effort has been made to review the studies in the related fields, in the following paragraphs:

Studies on Mobile app-based shopping

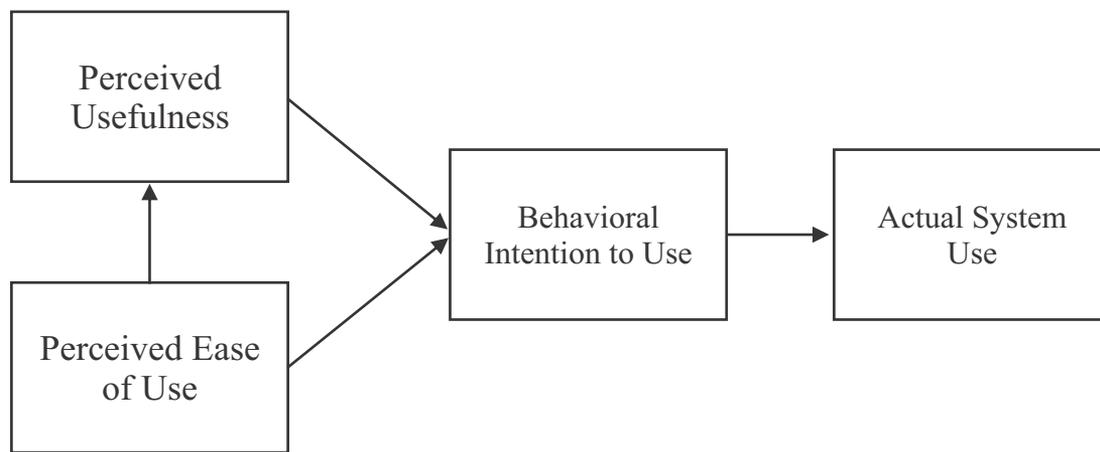
"Mobile commerce is a form of e-commerce in which additional capabilities are enabled with the use of a mobile platform and a wireless network" (Chhonker, Verma and Kar, 2017). Chang (2015) describes mobile applications as "those software or applications for performing specific tasks or functions for the user which can be run on different mobile devices, including electronic devices, phones, and smartphones". Mobile shopping (m-shopping) is used widely and merits a multi-faceted research (Wang *et al.*, 2015; Pantano and Priporas, 2016). Holistically speaking, mobile shopping refers to "all the activities of the consumers who use wireless Internet service when shopping and purchasing via a mobile phone, such as searching, comparing, buying, or evaluating" (Ko *et al.*, 2009).

Studies on Behavioural Intention and Technological-Adoption- Framework

Behavioural intention is defined as an individual's intention to perform various behaviours (Ajzen and Fishbein, 1977). It may be considered as “the individual willingness to use and continue to use a technology, and the factor that determines the usage of a technology” (Venkatesh, Thong and Xu, 2012). Studies show that behavioural intention correlates with actual behaviour (Sheppard, Hartwick, and Warshaw, 1988; Venkatesh *et al.*, 2003). As Chhonker, Verma, and Kar (2017) observed that the behavioural intention framework of understanding has evolved over the years to become “the

dominant theory in the field of technology adoption; it includes the Theory of Reasoned Action (Fishbein and Ajzen, 1977), the Technology Acceptance Model (Davis, 1989), and the Theory of Planned Behaviour (Ajzen, 1991). Given our objective of measuring the effect of perceived usefulness and ease of use on the behavioural intention of consumers in preferring mobile app-based shopping among their demographic variables, the theory of Technology Acceptance Model as depicted in **Figure 1** has been used in this paper:

Technology Acceptance Model (TAM) by Davis, 1989



Technology Acceptance Model (TAM) by Davis, 1989

Figure 1: Conceptual Model 1

Studies on The Technology Acceptance Model

Several theoretical models have been applied to user acceptance and usage behaviour regarding emerging information technologies. However, the TAM—a model that assists in understanding customer attitudes towards mobile technology use (Rivera *et al.*, 2015)—remains the most-widely accepted paradigm (Venkatesh, 2000). It is useful for developing or predicting the system-specific benefits that are critical for customers to maintain a long-term working relationship with a new technology. Adapted from the theory of reasoned action, the key difference here is that attitudinal determinants, derived separately for each behaviour, are replaced with a set of two variables: perceived ease of use and perceived usefulness

(McFarland and Hamilton, 2006). Ha and Stoel (2009) used the TAM to examine the factors influencing customers' acceptance of e-shopping. The authors found that the critical beliefs about online shopping, i.e., perceived ease of use and perceived usefulness are key determinants of successful adoption of online shopping. Specifically, while perceived usefulness had a direct effect on attitude towards e-shopping, ease of use had an indirect effect through perceived usefulness.

Demographic Variables

The demographic profile of consumers plays an important role influencing their behavioural

intention and shopping through mobile apps. Studies have shown that individual characteristics may be particularly significant determinants in this field (e.g., Dabholkar and Bagozzi, 2002; Leon, 2018). These are briefly discussed in the following paragraphs.

Age

The Age has been observed as a significant factor in determining the adoption of technology. Some studies argued that only young people are inclined to use apps and that their older counterparts are both negative and resistant to mobile technology, while others endorse the inverse relationship (Dasgupta *et al.*, 2011). Though all the age-groups are adopting smart technologies (Grewal, Levy and Kumar, 2017), some studies have found that attitudes towards new technologies become negative with increasing age (Celik and Phau, 2016). It seems that younger individuals have greater experience of using the Internet and similar media for their daily tasks as compared to the older individuals (McMillan and Morrison, 2006).

Gender

The Gender has been considered as a moderator in marketing research in general and the TAM research in particular. For example, Yuan *et al.* (2016), in a mobile banking study, concluded that, gender moderates the effect of perceived risk on continuance intention and that this relationship is stronger for the males than the females. Though some scholars have proposed that “gender does not have any specific impact on the adoption of technology and that the internet practices of men and women do not have significant differences” (Bhatnagar, Misra and Rao, 2000), a considerable corpus of research has found that gender impacts business technology adoption in significant ways (Venkatesh and Morris, 2000; Goh and Sun, 2014). Some studies have found that women had displayed “lower computer aptitude” and “more computer anxiety and less confidence” (He and Freeman, 2010) compared to men. Venkatesh and Morris (2000) observed that “there is an inverse relationship between computer anxiety and computer self-efficacy: this has a negative impact

on perceived ease of use” (Venkatesh and Davis, 1996).

Occupation

In India, occupation and education go hand-in-hand. Education can go a long way in determining what one does for a living and what s/he takes home. It is also an important determinant of consumer purchase behaviour, determining the mode of buying—cashless or cash-based, online or in-store and the frequency of use when it comes to mobile app-based shopping. Though educated persons tend to use the Internet more (Rhee and Kim, 2004), it is important to find whether education (Chong, 2013) and occupation have a positive bearing on guiding the consumer choices when it comes to *m*-Commerce in the Indian context. Though Teo (2001) said that educational and occupational levels have no significant relationship with the use of *m*-Commerce, focus will be on ascertaining the role of occupation in determining shopping through mobile apps.

Income

The occupation determines the consumer's income and purchasing power. The growth of *m*-Commerce in India's Tier-2 and Tier-3 cities is a growth story that is inspirational in nature. Accessing *m*-Commerce apps is an important part of this growth. But the choice of products bought, the deals opted for, and THE volumes purchased are dependent on an individual's purchasing power. In the Indian context, it is important to understand how income determines the choice for buying through mobile apps.

Perceived Usefulness

Perceived usefulness is defined as the extent to which the target customers believe that using a specific technology will generate significant value for them (Olaleye *et al.*, 2018). TAM posits that behavioural intention to initially adopt a mobile app is determined by one's attitude towards using that system and its perceived usefulness, where attitude is a direct function of usefulness (Gupta

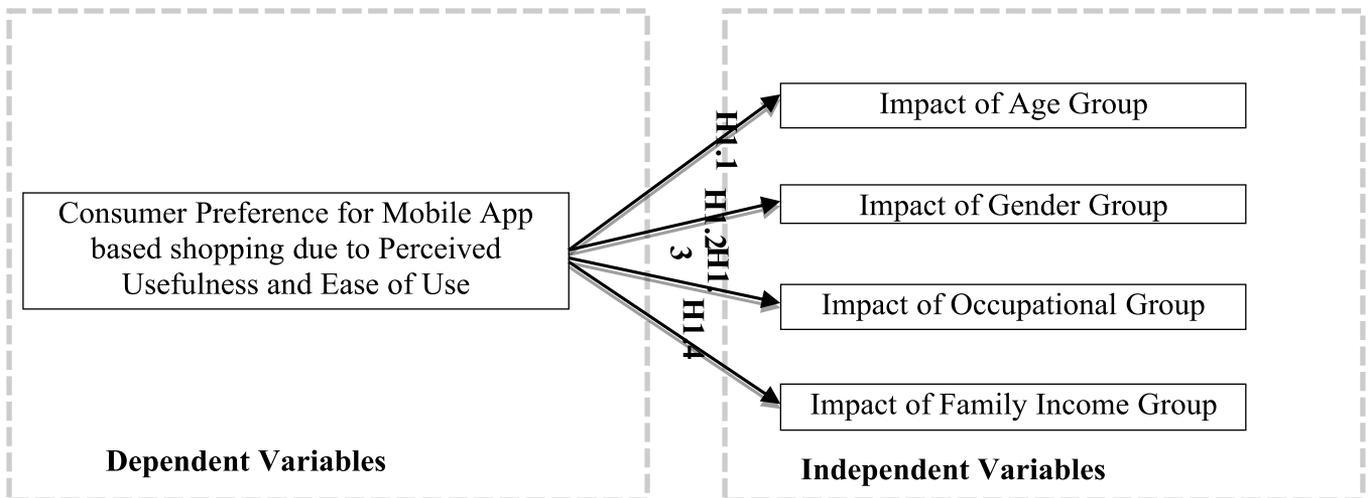
and Arora, 2017). TAM2 also stipulates that people employ a mental representation for assessing the match between important task goals and the resultant consequences as a basis for forming judgments about the user-performance contingency (i.e., perceived usefulness) (Venkatesh and Davis, 2000). If users understand that using an app will be beneficial and satisfies their needs, they assume a positive attitude towards doing so (Olaleye *et al.*, 2018). At the same time, the perceived usefulness of shopping through mobile apps can also get affected by their demographic factors. To this, Rivera *et al.* (2015) found that usefulness (as a traditional technology-adoption antecedent) explained the owners' intentions to use a mobile app.

Ease of Use

Attitudes are cognitive reactions to an action and are indications of how hard people are willing to try and how much effort they are planning to exert

(Ajzen and Fishbein, 1977). Therefore, less effort going into using mobile apps results in greater inclination to use the technology because it is supposedly easier and more service oriented (Laforet and Li, 2005). It is said that ease of use refers to the degree to which a person believes that technology is easy to use (Veríssimo, 2016). It has been argued that individuals use new technologies due to both perceived extrinsic benefits (e.g., usefulness and ease of use) and intrinsic benefits (e.g., playfulness and hedonic benefits) (Kim *et al.*, 2016). Across the literature, many studies have depicted the positive attitudinal effect of digital convenience (Gill *et al.*, 2017; Hsu and Lin, 2016). One reason for this is that the perceived accessibility correlates with, and heightens, the extent to which an app is viewed as trustworthy (Morosan and DeFranco, 2016). So, in the light of this background, we have sought to conceptualise a model to study as to how do the effect of the perceived usefulness and ease of use gets affected by the different demographic profiles of consumers as depicted in **Figure 2**.

Figure 2: Conceptual Model 2



Rationale of the Study

After going through the findings of the various researchers, it is evident that this is the new and emerging concept and marketers and developers are facing the challenge of acquiring knowledge about consumer behaviour (Hew *et al.*, 2015). This study seeks to help marketers gain knowledge about consumers' demographic profile with respect

to their preference for mobile app-based shopping and also drivers to it, such as the perceived usefulness and ease of use. The demographic variables considered in the study are: age, gender, occupation, and income. This is particularly relevant, as the use of Multinomial Logistic Regression model is being made to examine the factors which determine the consumer's response to mobile app-based shopping.

OBJECTIVES OF THE STUDY

The objectives of the study are:

1. To examine the consumer preference for various modes of shopping: brick-and-mortar shops or online through websites/mobile applications;
2. To ascertain the degree of preference for the mobile app-based shopping among the different demographic groups;
3. To measure the effect of the perceived usefulness on consumers' behavioural intention; regarding the mobile app-based shopping among the stated demographic groups; and
4. To assess the effect of the ease of use on the behavioural intention of consumers regarding the mobile app-based shopping among the different demographic groups.

Hypotheses

In order to achieve the above objectives, the following hypotheses were formulated:

H_{a1}: There is a significant difference among various age groups in preferring the mobile app-based shopping over the brick-and-mortar shopping.

H_{a2}: There is a significant difference between males and females in preferring the mobile app-based shopping over the brick-and-mortar shopping.

H_{a3}: There is a significant difference among various occupational groups in preferring the mobile app-based shopping over the brick-and-mortar shopping.

H_{a4}: There is a significant difference among various family income groups in preferring the mobile app-based shopping over the brick-and-mortar shopping.

H_{a5}: There is a significant difference among various age groups in choosing the perceived usefulness as a factor for preferring the mobile app-based shopping.

H_{a6}: There is a significant difference between the males and the females in choosing the perceived usefulness as a factor for preferring the mobile app-

based shopping.

H_{a7}: There is a significant difference among various occupational groups in choosing the perceived usefulness as a factor for preferring the mobile app-based shopping.

H_{a8}: There is a significant difference among various family income groups for choosing the perceived usefulness as a factor for preferring the mobile app-based shopping.

H_{a9}: There is a significant difference among various age groups in choosing the ease of use as a factor for preferring the mobile app-based shopping.

H_{a10}: There is a significant difference between males and females in choosing the ease of use as a factor for preferring the mobile app-based shopping.

H_{a11}: There is a significant difference among various occupational groups in choosing the ease of use as a factor for preferring the mobile app-based shopping.

H_{a12}: There is a significant difference among various family income groups in choosing the ease of use as a factor for preferring the mobile app-based shopping.

RESEARCH METHODOLOGY

The Sample and the Data Collection

A survey was conducted with the help of a structured questionnaire consisting of multiple-choice questions. The questionnaire was developed using Google Forms. Subject matter experts were interviewed, and an initial questionnaire was constructed on the basis of their feedback. This was then sent back to them for review. The questions for each construct were based on an extensive literature review.

While conducting the survey, the use of purposive-sampling technique of non-probability sampling was made to test the hypotheses. The questionnaire was pre-tested on 50 respondents from different age, gender, occupation, and family income groups reflecting the target audience. The questionnaires were then floated and filled online by respondents above the age of 15 years, based in the National Capital Territory of Delhi, India. We chose Delhi as it has a representative population from various

parts of India. Overall, the questionnaires were circulated amongst 2000 respondents, of which

1,498 were found complete. The demographic characteristics of respondents are shown in **Table 1**.

Table 1: Respondent's Profile

Demographic factors	Number	Per centage
Age (in Years)		
16 – 25	536	35.78
26 – 35	330	22.03
36 – 45	250	16.69
46 – 45	216	14.42
Above 55years	166	11.08
Total	1498	100
Gender		
Females	748	49.93
Males	750	50.07
Total	1498	100
Occupation		
Students 421	28.10	
Teachers/Professors	198	13.22
Homemakers	156	10.41
Private Sector Employees	246	16.42
Government Employees	161	10.75
Businessmen	158	10.55
Professionals	154	10.28
Others	4	0.27
Total	1498	100
Family Income (in Rupees)		
Less than 20k	161	10.75
20k – 50k	287	19.16
50k – 1lakh	370	24.70
1Lakh – 2 lakh	372	24.83
Above 2 Lakh	308	20.56
Total	1498	100

Model Specification

The responses from the 1,498 completed questionnaires were compiled. The quantitative research methodology was employed. The Multinomial Logistic Regression model was used to investigate the effect of perceived usefulness and ease of use with regards to the preference for mobile-apps over the brick-and-mortar shops for retail shopping among different age, gender, income and occupational groups of consumers. The Multinomial Logistic Regression model was originally developed as a general alternative to probit model due to the work of Joseph Berkson in

1944 (Cramer 2002). According to the Menard's 'Applied Logistic Regression Analysis', the Multinomial Logistic Regression is used often when categories are unordered and have more than two variables (Williams, 2017). The rejection or acceptance of the hypotheses was determined by the results.

Multinomial logistic model has been used in previous studies in marketing, for testing the efficiency of a new product strategy (Hauser and Urban, 1977; Silk and Urban, 1978), choice of store (Genschand Recker, 1979), variety seeking behaviour of consumers (Lattin, 1987), reference-

dependent behaviour (Hardie *et al.*,1993). Another important reason for the choice of the multinomial logistic regression model has been that it shows the relative impact of one variable by controlling the impact of all other variables used in the model.

DATA ANALYSIS AND FINDINGS

The findings of the study are summarised in the following paragraphs.

Consumer's preference for Modes of Shopping: The consumer's preference for modes of shopping is summarised in **Table 2**.

Table 2: Consumer Preference for Various Modes of Shopping

Particulars	Frequency	Per cent
Brick-and-mortar shopping	918	61.3
Online through website shopping	154	10.3
Mobile application-based shopping	426	28.4
Total	1498	100.0

It was found that a good majority (61 per cent) of respondents still prefer the brick-and-mortar based shopping. The study has also revealed some emerging trends: It seems that the market share of mobile app-based shopping is 28 per cent, leaving online website-based shopping to the last position with just 10 per cent. These trends indicate the strength of the traditional preference of consumers and the rising acceptance of the mobile app-based technology for shopping and they are in line with the findings of other scholars, who have found that mobile

apps are poised to radically revolutionise the world of e-commerce with the rapid rise in the number of smartphone users (Chang, 2015).

Preference for Mobile Apps among different Groups

The study further revealed the probability of consumer preference for mobile apps over other media for shopping among different age, gender, occupation, and family income groups, as shown in **Table 3**.

Table 3: Probability of Consumer Preference for Shopping through Mobile Apps among Various Groups

	Groups (Slabs)	dy/dx	Standard Error
Age Groups (In years)	26 - 35	-0.086***	0.034
	36 -45	-0.130***	0.039
	46 – 55	-0.380***	0.054
	Above 55years	-0.009	0.087
Gender	Female	-0.044**	0.023
Occupational Groups	Teacher/Professor	0.210***	0.042
	Home maker	-0.014	0.069
	Private sector employee	0.178***	0.035
	Govt. employee	0.169***	0.048
	Businessman	0.207***	0.050
	Professional	0.258***	0.046
Family Income (Rs.)	20,000 - 50,000	-0.036	0.042
	50,000 –1,00,000	0.060	0.039
	1,00,000 –2,00,000	0.075	0.041
	Above 2,00,000	0.100***	0.040

Note 1: *** and ** respectively refer to 1 per cent and 5 per cent level of significance.

2: dy/dx refers to average marginal effects

3: Base variable among age groups is 16y-25y age group, gender groups is male, occupational group is student and family income groups is less than Rs. 20,000

4: All the standard errors are robust in nature.

The above findings indicate the relative likelihood of preferring mobile app-based shopping over the brick-and-mortar shopping among various age groups, assuming that other demographic variables, like gender, occupation, and family income are controlled. We noticed from the results that there is 8.6 per cent lower probability for choosing mobile app-based shopping among the age group of 26–35 years, as compared to the age group of 16–25 years. Similarly, the age group of 36–45 years has a lower probability of 13 per cent and the age group of 46–55 years has 38 per cent, respectively. The above results suggested that the preference for the mobile app-based shopping decreases with the increase in age. The results for the three age-groups, that is, 26–35, 36–45, and 46–55 years, are statistically significant at 1 per cent. The result for the 55-years and above age-group is not statistically significant: hence, it has not been considered. This implies that the alternative hypothesis H_{a1} can be accepted for all the age groups except 55 years and above.

Analysis of the next demographic variable, i.e. gender, was performed similarly by controlling all other variables, namely age, occupation, and family income. As shown in *Table 3*, females have lower preference for the mobile app-based shopping by 4.4 per cent as compared to the males. This result is also statistically significant and hence, leads us to accept the alternative hypothesis H_{a2} , implying that there is a significant difference between the male and the female gender groups in preferring mobile app-based shopping. These findings are in line with Sim and Koi (2002) who suggested that “women prefer traditional shopping because it is a kind of social gathering”, while Huang and Yang (2010) found that men have a greater online presence and higher motivation to purchase than women.

Likewise, the demographic variable Occupation was analysed by controlling all other variables, namely, age, gender, and family income. It was found that the group teachers/professors had a 21

per cent higher probability for choosing mobile app-based shopping over the brick-and-mortar shopping as compared to the students. Students were taken as the base group for this analysis. Private-sector employees also had a higher probability of 17.8 per cent as compared to the government employees, at 16.9 per cent. Lastly, the businessmen group had a probability of 20.7 per cent, while the professional services had a probability of 25.8 per cent. The above facts indicate that when it comes to shopping using mobile apps over the brick-and-mortar shops, the professional services people are most likely to prefer the mobile app-based shopping as compared to the base group, i.e. students. The reasons quoted were 'convenience' and 'ease of use'. In fact, students were the least active, and professional services were the most active in preferring the mobile app-based shopping over and above the brick-and-mortar shopping. The result for homemakers group is not statistically significant and was not considered. This implies that the alternative hypothesis H_{a3} can be accepted for all the occupational groups except the homemakers group.

Finally, the analysis was carried out for the last demographic variable, namely, family income, by controlling all other variables. According to the results, we found that the group above Rs. 2,00,000 has a higher probability, of 10 per cent than the family income group of less than Rs. 20,000 for choosing the mobile app-based shopping over the brick-and-mortar shopping. The above facts suggest that when it comes to shopping using the mobile apps, higher family income group are more likely to prefer the mobile app-based shopping as compared to our base income group, namely, less than Rs. 20,000. Overall, the results shown in *Table 3* for the group of above Rs. 2,00,000 are statistically significant at 1 per cent level, respectively. This implies that the alternative hypothesis H_{a4} can be accepted for all the family income groups except Rs. 20,000–50,000 and less

than Rs. 20,000, respectively, where it is statistically insignificant. In fact, we also found that if the family income of the consumer rises above Rs. 1,00,000 then the preference for the mobile app-based shopping also increases.

Preference for Shopping through Mobile App among Various Groups

An attempt was also made to calculate the

probability for preferring mobile apps over other medium for shopping due to the perceived usefulness among the different age, gender, income and occupation groups as shown in **Table 4**.

Table 4: Probability of Preference Mobile App for Shopping due to Perceived Usefulness among Various Groups

	Variable	dy/dx	Standard Error
Age (In years)	26 - 35	0.235***	0.066
	36 -45	0.177**	0.073
	46 – 55	0.311**	0.131
	Above 55years	-0.220	0.229
Gender	Female	-0.110**	0.049
Occupation	Teacher	-0.497***	0.076
	Home-maker	-0.297**	0.148
	Private sector employee	-0.171**	0.072
	Govt. employee	-0.322***	0.096
	Businessman	-0.307***	0.099
	Professional Service	-0.258***	0.091
Family Income (Rs.)	20,000 - 50,000	0.065	0.092
	50,000 –1,00,000	0.223***	0.082
	1,00,000 –2,00,000	0.25***	0.086
	Above 2,00,000	0.146	0.084

Note 1: ***and** respectively refer to 1 per cent and 5 per cent level of significance.

2: dy/dx refers to average marginal effects

3: Base variable among age groups is 16y-25y age group, gender groups is male, occupational group is student and family income groups is less than Rs. 20,000

4: All the standard errors are robust in nature

The above results indicate the relative likelihood of preferring mobile app-based shopping over brick-and-mortar shopping due to perceived usefulness among various demographic variables like age, gender, occupation, and family income. As before, analysis of each variable was carried out by

controlling all others.

On the basis of the results achieved, we accept the alternate hypothesis H_{a_3} , as it is statistically significant for all age groups except the above 55 years of age, implying that there is a significant difference among all age groups except above 55

years of age in considering perceived usefulness as a driver for preferring mobile app-based shopping over brick and mortar shopping.

The findings listed in the above table clearly indicate the relative likelihood of preferring mobile app-based shopping over brick-and-mortar shopping among various age groups, assuming that other demographic variables like gender, occupation, and family income are controlled. We noticed from the results that there is 23.5 per cent higher probability for choosing perceived usefulness as a driver for the preference of mobile app-based shopping among the age group of 26–35 years as compared to the age group 16–25 years. Similarly, the age group 36–45 years has a higher probability of 17.7 per cent and the age group 46–55 years has a higher probability of 31.1 per cent respectively.

Similar analysis was undertaken for the next demographic variables, i.e. gender, by controlling all other variables. As per the above information, we found that the result is statistically significant and hence leads us to accept the alternative hypothesis H_{a_6} , implying that there is a significant difference between the male and female gender group in preferring mobile app-based shopping due to perceived usefulness. As per the information given in the above Table, it appears that females have lower probability for choosing perceived usefulness as a driver for the preference for mobile app-based shopping by 11 per cent as compared to males.

Likewise, all other variables were controlled for the analysis of occupation. According to the result shown, we found that the alternative hypothesis H_{a_7} is statistically significant and can be accepted for all the occupational groups. It indicates that there is a significant difference among all occupational groups in considering perceived usefulness as a driver for preferring mobile app-based shopping over brick and mortar shopping.

As per information given in the above Table, the demographic variable Occupation was analysed by

controlling all other variables, such as, age, gender, and family income. It was found that the group teachers/professors have a 49.7 per cent lower probability for choosing perceived usefulness as a driver for the preference of mobile app-based shopping over brick-and-mortar shopping as compared to the students. Students were taken as the base group for this analysis. Similarly, homemakers have 29.7 per cent lower probability, Private sector employees also have a lower probability of 17.1 per cent, likewise government sector employees have also lower probability of 32.2 per cent and the businessmen group has also a lower probability of 30.7 per cent while the professional services have also a lower probability of 25.8 per cent, respectively.

Lastly, analysis for the variable family income was undertaken after controlling all other variables. On the basis of the analysis, we found that the alternative hypothesis H_{a_8} is statistically significant and can be accepted for two family income groups, that is, Rs 50,000-1,00,000 and Rs.1,00,000-2,00,000 which indicates that there is a significant difference among these family income groups in considering perceived usefulness as a driver for preferring mobile app-based shopping.

According to the results, we found that the group of Rs. 50,000 – 1,00,000 has a higher probability, of 22.3 per cent than the family income group of less than Rs. 20,000 for choosing perceived usefulness as a driver for the preference of mobile app-based shopping over brick-and-mortar shopping and similarly, the group of 1,00,000 – 150,000 has higher probability of 25 per cent, respectively.

Preference for shopping through Mobile App for Ease of Use

Further, an attempt has been made to measure probability for preferring mobile apps over other mediums for shopping due to ease of use among different age, gender, income and occupation groups as given in **Table 5**.

Table 5: Probability for Preferring Mobile Apps for Shopping due to Ease of Use among Various Groups

	Variable	Dy/dx	Standard Error
Age (In years)	26 - 35	0.237***	0.064
	36 -45	0.027	0.079
	46 – 55	0.284**	0.118
	Above 55years	0.08	0.242
Gender	Female	-0.094	0.049
Occupation	Teacher	-0.583***	0.078
	Home maker	-0.315**	0.132
	Private sector employee	-0.137	0.070
	Govt. sector employee	-0.434***	0.090
	Businessman	-0.238**	0.096
	Professional	-0.361***	0.093
Family Income (Rs.)	20,000 - 50,000	0.104	0.087
	50,000 –1,00,000	0.125	0.081
	1,00,000 –2,00,000	0.233***	0.084
	Above 2,00,000	0.097	0.083

Note 1: ***and** respectively refer to 1 per cent and 5 per cent level of significance.

2: dy/dx refers to average marginal effects

3: Base variable among age groups is 16y-25y age group, gender groups is male, occupational group is student and family income groups is less than Rs. 20,000

4: All the standard errors are robust in nature.

The results indicate that H_{a_9} is statistically significant for two age groups, that is, 26-35 years and 46-55 years and leads us to accept the alternative hypothesis, implying that there is a significant difference among these two age groups in considering ease of use as a driver for preferring mobile app-based shopping.

The findings listed in the above table clearly indicate the relative likelihood of preferring mobile app-based shopping over brick-and-mortar shopping among various age groups, assuming that other demographic variables like gender, occupation, and family income are controlled. We noticed from the results that there is 23.7 per cent higher probability for choosing perceived ease of use as a driver for the preference of mobile app-based shopping among the age group of 26–35 years as compared to the age group 16–25 years. Similarly, the age group of 46–55 years has a higher

probability of 28.4 per cent respectively.

Similar analysis was undertaken for the next demographic variables, i.e. gender, by controlling all other variables. As per the above table, we found that the result is not statistically significant and hence leads to not accept the alternative hypothesis $H_{a_{10}}$, implying that there is no significant difference between the male and female gender group in preferring mobile app-based shopping due to ease of use. As per information given in the above Table, it appears that females have lower probability for choosing perceived ease of use as a driver for the preference for mobile app-based shopping by 9.4 per cent as compared to males.

Likewise, all other variables were controlled for analysis of occupation. According to the result shown, we found that the alternative hypothesis $H_{a_{11}}$ is statistically significant and can be accepted

for all the occupational groups except the group of private sector employees which implies that there is a significant difference among all occupational groups except the private sector employees in considering perceived ease of use as a driver for preferring mobile app-based shopping.

As per information given in the above Table, the demographic variable Occupation was analysed by controlling all other variables, such as, age, gender, and family income. It was found that the group teachers/professors have a 58.3 per cent lower probability for choosing perceived ease of use as a driver for the preference of mobile app-based shopping over brick-and-mortar shopping as compared to the students. Students were taken as the base group for this analysis. Similarly, homemakers have 31.5 per cent lower probability, Private sector employees also have a lower probability of 13.7 per cent, likewise government sector employees have also lower probability of 43.4 per cent and the businessmen group has also a lower probability of 23.8 per cent while the professional services have also a lower probability of 36.1 per cent respectively.

Lastly, analysis for the variable, family income was undertaken after controlling all other variables. On the basis of the information shared, we found that the alternative hypothesis Ha12 is statistically significant and can be accepted for only one family income group, i.e. Rs. 1,00,000-2,00,000. It indicates that there is a significant difference between Rs. 1,00,000-2,00,000 and base group, i.e. less than Rs. 20,000 family income in considering ease of use as a driver for preferring mobile app-based shopping over brick and mortar shopping.

According to the results, we found that the group of Rs. 1,00,000 – 2,00,000 has a higher probability, of 23.3 per cent than the family income group of less than Rs. 20,000 for choosing perceived ease of use as a driver for the preference of mobile app-based shopping over brick-and-mortar shopping

CONCLUSIONS

Theoretical Contribution

Most of the studies on service mobile apps have tended to focus on “either a specific industry or

some particular type of app” (Gurtner *et al.*, 2014). Research on the TAM has also focused on the youth, to the detriment of the older age-groups (Lian and Yen, 2014). Keeping these ignored aspects into account, this paper intends to fill in the gaps and the results of the study have clearly revealed that the concept of shopping through mobile apps is picking up fast. The study further identified that the preference for mobile app-based shopping decreases with increase in the age group as the age group of '55 and above' was not found to be very keen on buying through mobile apps.

The study has also revealed the fact that there is a significant difference between the male and the female groups in preferring the mobile app-based shopping. These findings are in line with Sim and Koi (2002) who suggested that “women prefer traditional shopping because it is a kind of social gathering”, while Huang and Yang (2010) found that “men have a greater online presence and higher motivation to purchase than women”. Similarly, contrary to the belief of Teo (2001), “where educational and occupational levels were found to be having no significant relationship with the use of *m-Commerce*”, in this study, occupation was found to be playing a significant role in shopping through mobile apps. More and more educated people, whether they were teachers, professors, or corporate professionals, were found to be opting for shopping through mobile apps. The reasons cited were the convenience and saving of time, energy, and effort.

Significant differences were found among all the age-groups with regards the perceived usefulness of mobile apps as a majority of people in the age-group of '55 and above' did not consider mobile apps as highly useful for them. Similarly, significant differences were found with regards to the gender and occupation on the perceived usefulness of mobile apps. Men considered mobile apps to be more useful than women, while at the same time, teachers, corporate professionals, businessmen and government employees quoted mobile apps as more useful than the students and private-sector employees. People with annual income of up to Rs. 2,00,000 were found to be favouring mobile apps mainly because of their usefulness and cost-savings. The ease of use was found contributing significantly towards the

consumers shopping through mobile apps, mainly in the age-groups of 26-35 and 46-55 years. Contrary to the belief of Karjaluoto *et al.* (2010) who, by sampling 681 respondents in Singapore concluded that gender moderated the perceived ease of use in terms of convenience more in female rather than male cohorts it found that both men and women preferred buying through apps mainly because of the ease of use and the comfort provided by them. Private-sector employees also preferred buying through mobile apps mainly because of the convenience and the saving of time in purchase of goods. Perceived ease of use was found dominating the purchase decision of people from all income-groups except the Rs. 1,00,000-2,00,000 group.

Thus, this study contributes significantly towards studying the mobile app-based shopping behaviour by examining gender, age, income and occupational differences with respect to the preference of this medium of shopping. It has also been pointed out that the perceived usefulness and the ease of use play a significant role in the growing importance of mobile apps as the emerging shopping medium over the traditional brick-and-mortar markets.

Policy Implications

In a country like India, where more than 65 per cent of the population is below the age of 35 years, it is quite evident from the findings of the study that there is a huge market available for mobile apps in the times to come. It is important to engage with consumers' interest by designing mobile apps which provide comfort, convenience, utility, cost-saving, and captivating content for all demographic groups of consumers, such as the younger and older groups as well as the males and the females. As opposed to received wisdom, older age groups are also adopting *m*-Commerce so their needs should also be kept in mind when designing portals and mobile applications. It is highly important that apps should be designed in such a nice and simple manner that it should be easy for everyone to download them and operate them easily. All the product features should be presented in an easy to understand language and there should be some promising benefits of buying through mobile apps.

This will help marketers win over the trust of consumers and increase their loyalty towards their brand. Strong connectivity, better delivery mechanisms, and loyalty bonuses should also be given to constantly engage consumers with apps and, in this fashion, increase their satisfaction. With the judicious application of knowledge of these factors and consumers' demographic variables, marketers can successfully target their mobile apps to the desired audience. The Government should also strengthen the digital infrastructure and data security so that retailers are able to optimise consumers' interest in *m*-Commerce.

Limitations and Suggestions for Future Research

M-Commerce is an area of immediate interest and this study will be found pertinent by industry experts as well as academicians. However, a major limitation of the study is that it is confined only to Delhi in terms of its focus. So, though the study provides in-depth insights into customers' perception about mobile app-based shopping, we cannot extrapolate these insights to form a regional or national pattern of customer choices and preferences. Nonetheless, it is hoped the model will encourage similar studies to be carried out in other regions and cities so that a substantial corpus of research is available on this dynamic subject.

Moreover, the study is quite granular in terms of the segmentation of target groups. It focused mainly on the demographic factors and ignored the cultural factors which can also play an important role in determining customers' perception towards *m*-Commerce. Lastly, the study undertakes the drivers to mobile app-based shopping as the primary entry point into the data.

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A company must be viewed not only as a portfolio of products and services, but a portfolio of competencies as well.

Gary Hamel



People of the same trade seldom meet together but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.

–**Adam Smith, Wealth of Nations**



In the affluent society no useful distinction can be made between luxuries and necessities.

– **J.K. Galbraith**



A good book is the purest essence of a human soul.

– **Thomas Carlyle**



Art teaches nothing, except the significance of life.

– **Henry Miller**



Consumerism is shame on marketing

–**Peter F. Drucker**

MEASURING CONSUMERS' ATTITUDE TOWARDS DIGITAL MARKETING COMMUNICATION

Examining the Antecedents and Consequences in India's Passenger Car Market

Rekha Dahiya and Gayatri

Abstract

Purpose: *This study seeks to measure the consumers' attitude towards digital marketing communication in India's passenger car market. The study also aims to test the conceptual model revealing the antecedents and consequences of consumers' attitude.*

Design/methodology/approach: *For gathering data, a survey was conducted using a multi-item scale. The data was collected from 600 car buyers from Delhi, using the convenience sampling. Structural Equation Modelling was applied to see the overall fit of the conceptual model and the predicting power of the variables.*

Findings: *The study has revealed that the Indian car buyers make ample use of digital content platforms and digital devices in their car-purchase journey, where the website was the most commonly-used content platform and smartphone was the most-used digital device. Car buyers had positive attitude towards using digital marketing communication and seemed positively inclined to use digital communication. The conceptual model was found fit for the study and individual characteristics explained the maximum variation in consumers' attitude towards digital marketing communication. Digital media characteristics, product-specific communication, individual characteristics and potential-outcome characteristics were the antecedents and usage intentions and actual usage were the consequences of consumers' attitude.*

Limitations: *The study was cross-section in nature, including both the actual and potential car buyers. A longitudinal study with enhanced controlled mechanism might have offered different results. As the study was conducted in Delhi, the results might have had a limited application in metropolitan cities only. The study includes the self-reporting behaviour of the respondents; actual actions of the buyers may differ due to constraint of cost, time, place and other settings.*

Practical implications: *The results of the study help car marketers understand the concept of consumer attitude by revealing its key antecedents and consequences. Marketers can leverage the identified antecedents to better market their products. The results also imply that rather than abruptly assigning increased ad-spend to digital platforms, enhanced efforts should be made to make the digital communication easy to understand for the intended audience.*

Originality/Value: *Not many studies have seen the application of consumers' attitude towards digital marketing communication in India's passenger car market. The study has not only seen the application of attitude in a relatively un-explored category, but also reveals its antecedents and consequences. The study proposes new antecedents of consumers' attitude in technology mediated parlances, especially in extended problem-solving category.*

Key words: *Consumer attitude, Digital marketing communication, Antecedents and consequences, Digital media, India's passenger car market*

INTRODUCTION

Marketers and consumers are appreciating the transformational change resulting from the deployment of digital technologies especially in marketing communication parlance which has significantly altered the ways of communication, sharing and finding information and doing business (Chaffey & Ellis-Chadwick, 2019). Marketers are also augmenting their marketing budget towards varied digital platforms across diverse product categories with cars, BFSI and FMCG being the consistent top spenders (Dahiya & Gayatri, 2018). India's passenger car market has also experienced its share of digital influence. India's passenger car market has been one of the top digital spenders since the year 2009 and major players like Maruti Suzuki, Hyundai, Tata Motors, Honda, Mahindra, Toyota, Volkswagen etc. are persistently escalating their spend on digital platforms. According to Sharma (2018), an amount Rs.13, 000 crores was spent on various digital platforms by Indian automobile players in the year 2018. A report by Dentsu Aegis Network suggests that automobile sector, along with banking and insurance, e-commerce, FMCG and consumer durables, has been the leading contributor towards digital advertisement (Tewari, 2020). Increasing online searches about cars, dominance of digital channel in consumers' car-buying, and the increasing customer demand for a seamless digital car-buying experience present an optimistic future of digital marketing in India passenger car market and call upon systematic scrutiny of consumer dynamics in the area.

Technology adoption and acceptance by the masses, to a large extent, depends upon their attitude towards the salient beliefs of technology (Chandra, Goswami and Chouhan, 2012). Attitude in technological realms refers to the predisposition of the users to behave in a particular way i.e. favourable or unfavourable towards a new technology/system (Ajzen & Fishbein, 1975). Ajzen (1991) accredit attitude as one of the predictors of human behaviour. Attitude has been the one of the predictors explaining consumer intentions in online or digital domains as per the underpinnings of all popular models, such as the Technology Acceptance Model, Theory of

Reasoned Action, Theory of Planned Behaviour and the Theory of Decomposed Behaviour. Davis (1991) in his popular, Technology Acceptance Model posits that beliefs of the perceived usefulness and the perceived ease of use are fundamental in forming an attitude towards an information system, which in turn forms behavioural intention. Ajzen (1991), while discussing his famous Theory of Planned Behaviour (TPB) model, stressed that the attitude in technology mediated communication is referred to consumers' feelings of favourableness and unfavourableness towards usage of online/digital communication. Attitude, as per TPB, is a product of behavioural beliefs and outcome evaluations. Taylor and Todd (1995) further decomposed attitude in to three constituents while discussing their decomposed theory, of planned behaviour. Attitude was decomposed into three factors piggy riding the 'Theory of Diffusion' namely perceived usefulness (relative advantage), perceived ease of use (lack of complexity), and compatibility.

From the marketer's point of view, understanding the consumer's attitude in technology mediated environments is of paramount importance as a positive attitude leads towards enhanced probabilities of actual usage (Davis, 1989). Many studies conducted in western context provide a detailed analysis of consumers' attitude towards digital marketing (Chiu, Hsu, Sun, Lin, and Sun, 2005; Chu and Lu, 2007). Consumers' attitude is also found significantly affected in digital realms (Muthiah and Kannan, 2015). The Nielsen study (2014) concluded that content available over digital media fulfills 54% of consumer' information needs necessary for making a purchase decision. Consumers value the third party content, expert reviews and non-branded content more than the marketer's content during the buying decision process. User Generated Content is also known to greatly shape and affect the brand attitudes (Reino and Hay, 2011). The study conducted by Chandra *et al.* (2012) revealed that customers have positive attitude towards digital media as they believe social media help in taking a right purchase decision. They also consider social media trustworthy and unbiased information source. The study also revealed that positive customers' attitude towards

digital media supports purchase decisions. However, the results of the extant Western studies can't be directly applied to the Indian context because of fairly indigenous nature of Indian market like diverse cultural background and demographics, digital infrastructural bottlenecks and issues of security and privacy to name the most important. Moreover, beliefs, intellectual traditions and practices of Indian consumers which eventually shape their attitude are fairly different from the western world and need closer examination.

Attitude, one of the most important constructs in consumer behaviour is also known to effect consumer buying decision, yet it has not given its due importance in literature especially while buying a car. The study examines the concept of attitude related to digital marketing communication while buying a car. Although, consumers' attitude towards digital technology has been studied by researchers in categories ranging from books, travel, fashion, music and games (Wee *et al.* 2014; Mishra, 2015; Ahmed and Ward, 2016); still automobile industry despite being one of the largest digital spenders, has faced dearth of academic studies, especially in India. Despite the enhanced enthusiasm towards the usage of digital technology across product categories, there remain confined researches highlighting consumers' attitude by revealing its antecedents and consequences while buying a car. The study would reveal interesting measures for the multiple stakeholders, including researchers, academicians, marketing managers, and consumers by determining the application of digital technology towards understanding consumers' attitude in extended problem solving category. The significant results would add depth and width to the extant marketing literature. In order to completely understand the consumers' attitude towards digital communication in extended problem solving product category, we need a theoretical model which is currently missing in Indian marketing literature. So, this study not only understands the consumers' attitude by identifying its antecedents and consequences but also proposes and empirically tests the theoretical model.

LITERATURE REVIEW

After extensive literature review, the relevant studies were classified under four categories given below:

Studies on Digital Media Characteristics (DMC)

Almost all the noteworthy academicians and researchers have agreed over the prominent characteristics of digital marketing communication, including being interactive, relevant, compatible, convenient and cost-effective, which act as important precedents to consumer's attitude (Laurie & Mortimer, 2019; Hanlon, 2019; Dahiya & Gayatri, 2018). Studies conducted by Voramontri & Klieb (2018) established that digital media, owing to its specific characteristics, help build a positive attitude towards its usage. Consequently, digital marketing characteristics' was taken as one of the potential antecedents of consumers' attitude towards digital marketing and following hypothesis was formulated:

Ha₁: Digital media characteristics positively affect the consumers' attitude towards digital marketing communication.

Studies on Product-Specific Communication (PSC)

Gursoy (2019) found that customers look for product-specific information available online at various stages of buying decision process. Digital channels act as huge informative sources to the customers by providing detailed information about the product which helps the former taking a well-informed decision (Perry, Kent & Bonetti, 2019). Digital channels help customers comparing the various products by enabling them to save and compare the searches, giving convenient access to other customers and experts' reviews and by providing customers an opportunity to participate in online discussion about the products. 69% consumers read product reviews before making any purchase (Deloitte Global Automotive Study, 2019). On an average, a consumer visits three online stores before making a purchase (VI2, 2018). Social media sites, like 'Facebook' and 'Twitter', along with other review sites, are used as platforms to share positive and negative reviews by

the consumers (Filieri, McLeay, Tsui, & Lin, 2018). This is appropriate to synthesise from the discussion that individuals look for 'product-specific information' via accessing the relevant product-related information, scanning customers and experts reviews and comparing various products marketed over the digital channels. Consequently, the following hypothesis was developed:

Ha₂: Product-specific communication over digital channels positively affects the consumers' attitude towards digital marketing.

Studies on Individual Characteristics (IC)

While discussing his famous Theory of Planned Behaviour (TPB), Ajzen (1991) has observed that the individual's beliefs about herself with respect to the possession of necessary skills, ability, knowledge and resources to use the technology ultimately decide his/her technology adoption. Taylor and Todd (1995) have concluded that the judgment of the individual about her capabilities to perform the desired behaviour, availability of the resources like time, money, internet and devices and beliefs about authenticity, trustworthiness and compatibility of the technology with other digital devices guide the adoption and usage of technology. Farrell attributed the digital media time consuming and diversely varied in nature, so people with time constraints might find it difficult to use the digital marketing communication. Researchers like Bird (2007), Ryan (2014), Chaudhry and Sharma (2018) cited technicality of the medium as one of the major deterrents restraining the use of digital media. Usage of digital marketing communication requires possession of basic skill set including knowledge about digital devices and basic nuances of the Internet technology (Egan, 2007). People lacking this basic knowledge might feel demotivated and prefer using traditional channels of communication rather than using the digital communication channels. It was inferred from the available literature that individual's conviction regarding the possession of capabilities and resources which can be termed as 'Individual Characteristics', determine individual's attitude towards the digital marketing communication (Nguyen 2014; Syme, 2015). This led to the conceptualisation of the following

hypothesis:

Ha₃: Individual characteristics positively affect the consumers' attitude towards digital marketing.

Studies on Potential-Outcome Characteristics (POC)

Consumers have positive attitude towards the digital media, especially the social-media as they believe social media helps them taking an informed purchase decision (Chaffey & Ellis-Chadwick, 2019). Ewerhard, Sisovsky, & Johansson (2019) also found that web has made information search and comparison easier than ever which has reduced the impulse buying decisions and increased potential for taking informed decisions. Information over digital media further complements the easy selection in terms of brand, product, suppliers and dealers, etc. (Khalil, 2014). Consumers believe that digital media saves considerable time in purchase decisions as they get quick and relevant information with ease through myriad digital channels (Ottosson, 2019). Consumers also believe that digital channels fetch them a better deal than their traditional alternatives. Consumers access online information even in store with their mobile phones to find the best value deal (Bhatnagar & Papatla, 2019). Possibility of taking an informed decision and fetching best-value deal, overall time saved in buying, and an easy selection, can be termed as favourable 'potential-outcome' of using the digital media. So, following hypothesis was formulated for testing.

Ha₄: The perceived potential-outcome positively affects the consumers' attitude towards digital marketing communication.

Studies on Consequences of Attitude

A positive attitude towards the salient beliefs of technology affects the customers' intentions to use the technology (Chu and Lu, 2007). Ajzen and Fishbein (1975), in their study, observed that intentions are the precursor to the actual behaviour. Intentions to behave in a particular way are formed on the basis of attitudinal beliefs and subjective norms. Davis (1989) proposes that the positive attitude towards an information system forms the behavioural intention, followed by actual system

use. Ajzen (1991) found that the attitude in technology mediated communication leads towards usage intentions which ultimately determine the actual usage. Taylor and Todd (1995) accredited attitude as one of the major constructs affecting the usage intentions, used as a proxy for actual purchase by validating the positive relationship between the formers. Thus, a positive attitude towards digital marketing communication would result in its actual usage preceded by the usage intentions. This leads us to the formulation of the following hypotheses:

H_{a5}: A positive attitude towards the digital technology leads to the car buyers' intentions to use digital marketing communication.

H_{a6}: Positive intentions lead to the actual usage of digital marketing communication while buying a car.

Research Gap

In the Indian context, limited researches have been conducted in technological realms that highlight consumers' attitude towards digital marketing communication in a product category characterized by high involvement and investment and social approval i.e. car; that too with glaring

methodological drawbacks. Despite achieving the paramount importance in marketing literature and being ascribed as one of the most important constructs affecting consumer behaviour, the role of attitude has largely been discounted in technology adoption studies (Kim, Chun & Song, 2009). Moreover, in many technology oriented studies attitude is left out. Various studies, on the other hand consider only the limited role of attitude, at best of a partial mediator in predicting usage intentions (Venkatesh, Morris, Davis & Davis, 2003). The present study contends that importance of attitude can't be undermined either by leaving it out of the context or labelling its role as a partial mediator. So, this study provides a detailed examination of consumers' attitude towards digital marketing by identifying its antecedents as well as its consequences on usage intentions and actual usage while buying a car. Not many academic studies have observed the empirical manifestation of digital marketing in passenger car market especially in Indian context. The study proposes and empirically tests a conceptual model of consumers' attitude towards digital marketing in a relatively-unexplored product category in the Indian context given in **Figure 1**.

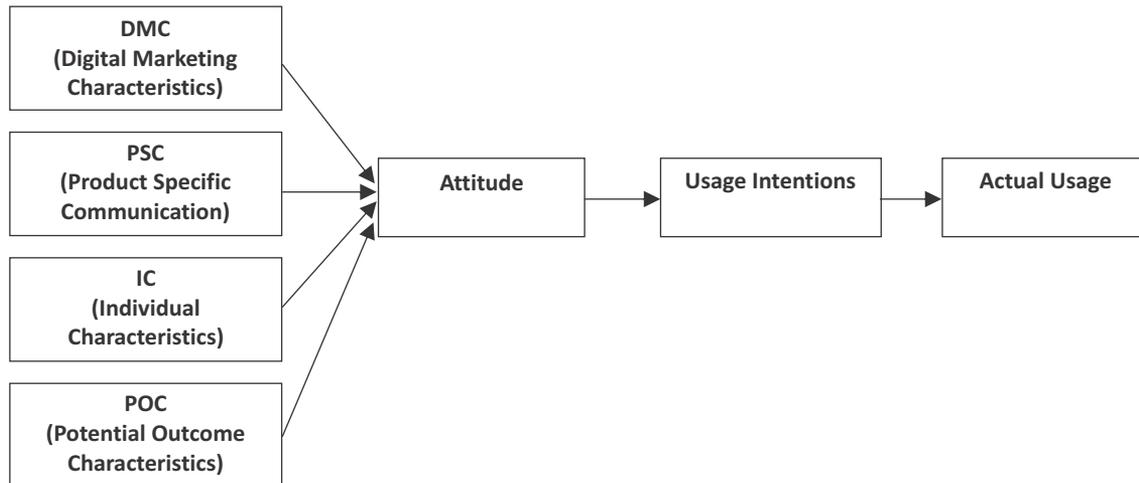


Figure 1: Proposed Conceptual Framework for Antecedents and Consequences of Consumers' Attitude

The proposed model posits that the digital marketing communication, product specific communication, individual characteristics and potential outcome characteristics determine the consumers' attitude towards the digital marketing

communication. Attitude in turn, affects the usage intentions of consumers which lead towards the actual usage of the digital marketing communication while buying a car.

OBJECTIVES OF THE STUDY

The study aims to understand the concept of consumers' attitude towards digital marketing communication in India's passenger car market by understanding its antecedents and consequences. The available literature highlights certain antecedents and consequences of consumers' attitude that have been presented in the conceptual framework (Figure 1). This study seeks to empirically test the proposed conceptual model. Specifically, the study aims to fulfill the following objectives:

1. To measure the consumers' attitude towards the digital marketing communication in the India's passenger car market by understanding its antecedents and consequences; and
2. To test the proposed conceptual model of the consumers' attitude towards the digital marketing communication, while buying a car.

RESEARCH METHODOLOGY AND MEASUREMENT

The study is based mainly on primary data. A multi-item scale was developed after getting substantial input from the available literature for the constructs of interest. The constructs like, attitude, usage intentions and actual usage were developed on lines of the guidelines given by Taylor and Todd (1995) and Francis *et al.* (2004). The scale was pretested with 120 respondents and finalised for use after deleting unnecessary items. The respondents were asked to express their agreement or disagreement on a five-point Likert's scale, where '1' meant 'strongly disagrees' and '5' meant 'strongly agree'. Exploratory Factor Analysis was conducted, followed by Confirmatory Factor Analysis to judge, the validity of the proposed scale.

The reliability of the scale was checked with the help of Cronbach's alpha. The Structural Equation Modelling (SEM) was applied to check the overall fit and the predictor power of the variables. The questionnaire was sent to 2000 respondents,

selected on the basis of convenience sampling approach, using both physical and online modes of distribution.

The study was conducted in Delhi. Any adult member whose family either owned a car or planned to buy a car in the near future from the selected geographical area was considered a sampling unit for the study. A total of 630 questionnaires were received back from the respondents during the period of July 2019 to November 2019, generating a response rate of 32%. After data cleaning, 600 responses were deemed fit for the study, the final sample for the study. 35% of the respondents belong to the 18-25 years age group. 25% of the sample was represented by the respondents between the 26-35 years age group. 18% of the respondents belonged to 36-45 years age bracket and 22% of the respondents were 45 years or above. The male respondents constituted 68% of the sample, whereas the female formed 32% of the sample. 50% of the respondents were graduates, whereas 35% had a post graduation degree. 10% of the respondents had education up to senior secondary level, whereas 5% had 'others' educational background. 48% of the respondents fell within Rs. 4 to Rs. 10 lakhs per annum income-group whereas, 25% had an income Rs. 10 lakhs but below Rs. 20 lakhs. 12% of the respondents earned Rs. 20 Lakhs and above and only 15% were found earned less than Rs. 4 Lakhs income category.

Reliability and Validity of the Scale

Exploratory Factor Analysis was conducted (using 120 responses) to know whether the scale items loaded as expected. All seven items loaded were as expected and explained about 70% of the variation. While the reliability of the scale was checked with the help of Cronbach's Alpha, convergent validity was checked with the help of factor loadings and the variance extracted. The reliability and validity statistics of the scale are presented in **Table 1**.

Table 1: Reliability and Validity of the Scale

Construct	Statements	Factor Loadings	AVE	Cronbach's Alpha
Digital Media Characteristics (DMC)	'Digital media is interactive in nature'. 'Digital media offers relevant information about cars'. 'Digital information is compatible with other devices'. 'Digital media is easy to use'. 'Digital information is less costly'.	0.820 0.856 0.874 0.807 0.886	0.726	0.799
Product Specific Communication (PSC)	'Digital media provides huge quantity of information about a car'. 'Various car brands can be easily compared over digital media'. 'Customers' reviews over digital channels help the evaluation of the car brand'. 'It is easy to have expert advice about car over digital channels'.	0.795 0.798 0.802 0.811	0.667	0.847
Individual Characteristics (IC)	'I can use the digital channels on my own without any help'. 'I am capable of using digital channels while buying a car'. 'I have all the resources to use digital channels while buying a car'.	0.875 0.898 0.847	0.763	0.898
Potential Outcome Characteristics (POC)	'Informed decisions can be taken over digital channels'. 'Digital media facilitates the easy selection of car dealer'. 'Digital media assists in easy selection of car brand'. 'Digital media reduces the time taken in searching'. 'Best value deal can be fetched over digital channels'.	0.875 0.898 0.888 0.872 0.886	0.781	0.901
Attitude (A)	'In general, using digital channels while buying a car is a good idea'. 'It is wise to use digital channels in comparison to traditional channels while buying a car'. 'I like the idea of using digital channels while buying a car'.	0.789 0.821 0.807	0.649	0.788
Usage Intentions (UI)	'I wish to join the consumer forums/blogs/SNS of car brands'. 'I would subscribe to the newsletter of car brands'. 'I would participate in online discussions about cars'. 'I would share exciting digital content about cars with my friends'.	0.878 0.897 0.857 0.856	0.761	0.879
Actual Usage (AU)	'I would buy the car based upon the digital information'. 'I would like to book a car online'.	0.882 0.898	0.792	0.857

Discriminant Validity of the Scale

The value of Cronbach's Alpha for each construct, the most common statistics used to analyse the internal consistency, was found to be more than 0.7, indicating the reliability of the scale used (Nunnally & Bernstein, 1994). Factor loadings for all the statements of the scale were found exceeding the recommended cut off value of 0.6. The Average

Variance Extracted (AVE) value was also found to be more than the recommended value of 0.5 for each construct (Farrell, 2010). The Fornell-Larcker (1981) criterion was used to ascertain the discriminant validity and square root of AVE of each construct was found greater than their inter-construct correlations. The discriminant validity statistics are shown in **Table 2**.

Table 2: Discriminant Validity of the Scale

	DMC	PSC	IC	POC	A	UI	AU
DMC	0.852						
PSC	0.655	0.817					
IC	0.697	0.587	0.873				
POC	0.781	0.689	0.742	0.884			
A	0.754	0.589	0.589	0.741	0.806		
UI	0.658	0.625	0.658	0.754	0.726	0.872	
AU	0.652	0.647	0.588	0.705	0.658	0.651	0.889

Note: The diagonal elements in bold are the square roots of AVEs whereas non-diagonal elements are the latent correlations.

DATA ANALYSIS AND FINDINGS

The study has revealed that the Website was the most-commonly used content based platform (used by 80 per cent of the respondents, followed by social networking sites used by 59 per cent of the respondents). The online communities were used as an information source by 40 per cent of the respondents whereas 'other' content-based channels were used by only 18 per cent of the respondents. Smartphones emerged as the most-commonly used digital device (used by 45 per cent of the respondents), whereas 'other digital screens' like digital outdoors and computers were used by 26 per cent and 15 per cent of the respondents, respectively. The findings indicated that car buyers in India have been making ample

use of digital-content platforms and digital devices in their car-purchase journey, whereas the website as the most commonly used content-platform and the smartphone was the most commonly-used digital device.

Descriptive Statistics

The descriptive statistics were analysed for all the antecedents and consequences of attitude as per the proposed model. One Sample Wilcoxon Signed Rank Test at 5 per cent level of significance was applied as test statistic to know the significance of results obtained as the data under study was not found normal. The descriptive statistics for the various constructs of the proposed model are summarised in **Table 3**.

Table 3: Descriptive Statistics

Construct	N	Mean	Std. Deviation	Test	Significance
DMC	650	4.01	1.21	One Sample Wilcoxon Signed Rank Test	0.003
PSC	650	3.85	1.08		0.001
IC	650	4.14	1.35		0.000
POC	650	4.07	1.25		0.000
A	650	3.88	1.07		0.000
UI	650	3.67	1.20		0.001
AU	650	3.59	1.14		0.000

The significance level is .05.

As shown in the table, for all the constructs of the proposed model, the mean value is more than three and the test was found significant. Individual Characteristics (IC) was found associated with the

highest mean value of 4.14, followed by 'Perceived Outcome Characteristics'. The significant results for all the constructs of the proposed model indicated that respondents considered digital

marketing communication having characteristics of being interactive, relevant, compatible, easy to use and less costly. They also believed that digital communication offers product specific information which helps them comparing the various brands and assist in selecting the car dealer and brand. Respondents also considered themselves able to use digital communication channels without anybody's help and found possessing necessary resources and skills to use the digital information. Overall, they had positive attitude towards using digital marketing communication while buying a car and seemed positively inclined to use digital communication in car buying decision process. The respondents wished to book a car online and expressed the probability to buy the car on the basis of digital information. The findings show the latent

desire of Indian car buyers to complete the entire car buying decision process online.

Model-Fit for the study

The proposed model-fit for the study was assessed using the Structural Equation Modeling. The fit indices are shown in **Table 4**. The proposed model was found fit for the study with a CMIN/DF value of 2.087, which was less than the recommended value of 3 (Bagozzi & Yi, 1988). The root mean square error of approximation (RMSEA) value was found as 0.041, indicating the good-fit of the proposed model (Browne & Cudeck, 1993). Other fitness indices were also found exceeding the value of 0.9.

Table 4: Model-Fit Indices

Index	Structural Model Value	Recommended Value
CMIN/DF	2.087	≤ 3
NFI	0.921	≥ 0.80
RFI	0.943	≥ 0.90
IFI	0.928	≥ 0.90
TLI	0.936	≥ 0.90
CFI	0.955	≥ 0.90
RMSEA	0.041	≤ 0.10

All the four antecedents significantly affected the car buyers' attitude and accounted for 61 per cent (0.000 sig.) of the variation in attitude. This led to the acceptance of the hypothesis Ha1, Ha2, Ha3 and Ha4.

Results of the Proposed Model

The individual characteristics explained the maximum variation (44 per cent, .000 sig.), followed by potential outcome characteristics (37 per cent, 0.000 sig.). Digital marketing characteristics explained 34 per cent (0.002 sig.) variation in the consumers' attitude. Product specific communication explained 36 per cent (0.001, sig.) of the variation in consumers' attitude. Attitude positively affected the usage intentions and explained 57 per cent (0.000 sig.) variation in the latter. This led to the acceptance of Ha5

hypothesis of the study. The usage intentions also positively affected the actual usage and explained 32 per cent (0.000 sig.) variation in the latter. This led to the acceptance of Hypothesis 6 (Ha6).

The findings seemed to be well in congruence with the existing literature especially one that deals with the application of technology-adoption models, namely Technology Acceptance Model, Theory of Planned Behaviour and Decomposed Theory of Planned Behaviour. These models across diverse product categories successfully exhibit that attitude significantly affects the usage intentions, which, in turn, affects the actual usage. This study also validates the similar course of action in the extended problem-solving product category. The results of the proposed conceptual model are shown in **Figure 2**.

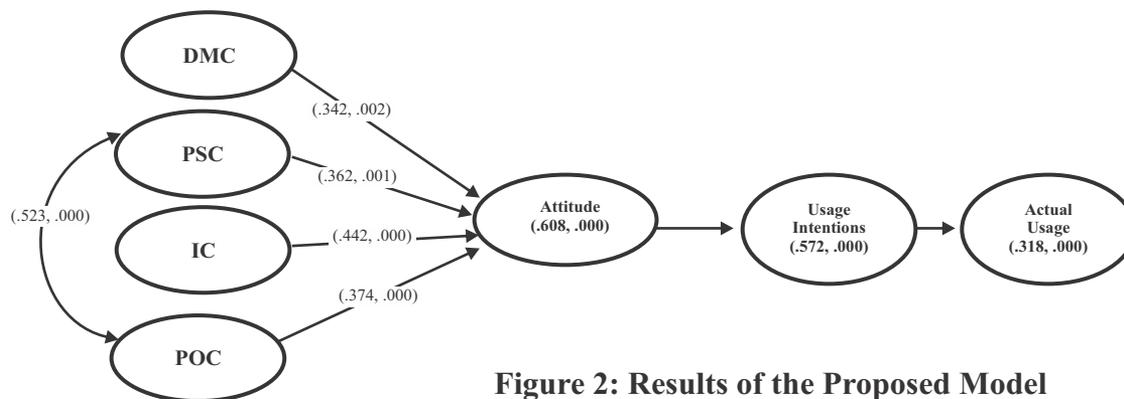


Figure 2: Results of the Proposed Model

The model also suggested inter-construct covariance whereby product specific communication and perceived outcome characteristics co-varied collectively by 52 per cent (.000 sig.). The suggested relationship can be understood by the fact that relevant product specific information helps the consumers' finding the suitable car dealer and the car brand which ultimately results in considerable time saving and facilitate an informed decision making.

Policy Implications

The study has sound managerial and academic implications. Not many studies have seen the applications of consumers' attitude towards digital marketing communication in Indian passenger car market. The study has not only seen the application of attitude in a relatively unexplored category, but also reveals its antecedents and consequences. Unlike the hugely popular technology-adoption models, like TAM, TPB, and DTPB, this study proposes new antecedents of consumers' attitude in technology mediated parlances, especially in the extended problem-solving category. The study concludes that digital marketing characteristics, product specific communication, individual characteristics and potential outcome characteristics are the significant antecedents of consumers' attitude towards using digital marketing communication while buying a car. Moreover, the individual characteristics and potential outcome characteristics are the most significant predictors of consumers' attitude. These findings add significantly to the marketing literature, especially in Indian context. India is an

evolving digital economy on world's map, but certain indigenous characteristics like not so impressive literacy level, low the Internet penetration, the Internet speed and infrastructural bottlenecks to name the most important make it a difficult marketing field. Amid all the complexities, if Indian consumers are exhibiting the positive attitude towards digital communication; then it demonstrates the capability of this contemporary communication medium (digital) to overcome the barriers of language, technicality, infrastructure and geography. This study is unique in the sense that on the one hand, it offers some new antecedents to consumers' attitude and on the other side it reaffirms the essence of traditional technology adoption theories by revalidating the proven relationship of attitude being followed by usage intentions and actual usage. This study asserts that positive attitude would be followed by usage intentions and actual usage in technology mediated environment irrespective of the product category, thereby adding more depth and breadth to the extant digital marketing literature.

The study has significant marketing implications. The results imply that marketers must understand that although the car-buyers have a positive attitude towards the digital marketing communication, yet they are most likely to use it when they have belief in their capabilities and have resources to use the latter. Customers are also expected to use digital channels when they have the assurance that the use of the digital channels will result in favourable outcomes in terms of fetching best-value deal, reduced time, and easy selection of car brand, model and the dealer, resulting in informed decision. Marketers must ensure the availability of

relevant product specific content, (i.e. car) over various digital platforms namely the website, social networking sites, online-communities, apps etc., so that it may successfully navigate the car buyers throughout their car purchase journey. Car marketers must also comprehend that rather than abruptly assigning increased ad-spend to digital platforms, enhanced efforts should be made to make the communication over digital channels easy to understand for the intended audience. Marketers must also apprehend that in order to augment the usage of digital communication, it is necessary for target market to feel comfortable while using digital communication and get a satisfactory experience later on with significant usage outcomes. The study also revealed that product specific communication and potential outcome characteristics vary together. The finding has important managerial implication whereby marketers' must pay attention towards the customers' and experts reviews about their car brand, car dealers over digital platforms as this information has the capability to alter or influence the choice of car brand and dealer and eventually the booking of the car. Marketers must also ensure the consistent experience across various digital platforms as customers might use diverse digital channels during their car purchase journey. Finally, the study also proposes a model which can be applied to give the insights of consumers' attitude and usage intentions.

CONCLUSION

The study reveals that car buyers in India have a positive attitude towards digital marketing communication while buying a car. Their attitude is determined by the digital media characteristics, product-specific communication, individual characteristics and potential-outcome characteristics. The consumer attitude affects the usage intention and the actual usage of digital marketing communication. The proposed conceptual model explains the significant and adequate variation in consumers' attitude. Comprehending the consumers of cars from the above mentioned perspectives will help the marketers in devising appropriate digital marketing and communication strategies. Discerning the

factors impacting the buyers' behavioural intention will pave a new arena for marketers and the marketing scholars.

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PLAGIARISTS BEAWARE!

Plagiarism has become a major problem in the way of research and publications, and is widespread and going unabated. We often receive articles for publication which are either partly or fully copied from others' works, despite the fact the author has given a declaration that the article is original and is an exclusive contribution to our journal, and has also submitted a certificate of cessation of copyright in our favour. The dare-devilry is shocking! This is outright deceit and cheating. Amusingly, the practice is not confined to Indian authors; foreign authors are no exception.

This time again, we came across a concept of two such cases, of plagiarism from Indian and foreign authors. The articles could have gone into print, but for the alacrity and the incisive eye of our referees and editorial team.

We have been facing another problem of somewhat similar nature, involving professional ethics. We spend a lot of efforts, time, and money in reviewing, short listing, and editing of each article which passes the preliminary scrutiny. When asked to make further revision or supply the missing information, some of the authors stop responding to us and submit the paper, which has been improved through our efforts, to some other journal. They do so despite their having given a declaration that the paper is an exclusive contribution to our journal, and shall not be withdrawn at a subsequent stage unless rejected/permitted by the Editor, and having ceded the copyright in our favour.

It needs no emphasis that plagiarism is not only an unethical practice; particularly so for an academician, it is also a violation of the code of conduct governing the services of university teachers and research scholars. Moreover, it amounts to a criminal offence under the Copyright Act, 1957 (which certainly does not grant us a 'right to copy!'). Any infringement of the copyright under the Act is an offence, punishable with imprisonment for a minimum period of six months, extendable up to three years, and a fine, ranging from Rs. 50,000 to Rs. 2 lakhs.

It is worthwhile to caution such unscrupulous people. Many people have already faced disciplinary action, eventually leading to their dismissal from service. These include university teachers at all levels—lecturers, associate professors, professors (including one in a top Central university, one in a top IIM, and one in a State university), and one Vice-Chancellor of a State university. In a recent case, the Vice-Chancellor of a reputed Central University had to face imprisonment.

Writing research article is a demanding as well as a rewarding task. A person looking for an unearned reward is surely inviting trouble for himself and a bad name for the entire academic community.

Editor

MEASURING THE SERVICE QUALITY OF PUBLIC AND PRIVATE SECTOR AND FOREIGN BANKS

Rajesh Kumar, Rachna Srivastava and Sanjay Kumar Sinha

Abstract

Purpose: This research was carried out with the objective of measuring the service quality of public and private sectors and foreign banks and to explore the gaps responsible for bad performance.

Design/methodology/approach: The study was conducted in Delhi NCR area and included the areas from four states of Haryana, Uttar Pradesh, Delhi and Rajasthan. The SERVQUAL scale was used to measure the perception and expectations of respondents based on a questionnaire. The SERVQUAL scale examined the eight dimensions of service quality, namely, reliability, empathy, facilities, customer relationship management, assurance, tangibility, accessibility and responsiveness. A sample of 520 customers from different categories of banks was taken for the study. A structured questionnaire with 36 statements was prepared, to study the perception and expectations of customers.

Findings: On the basis of all the dimensions, the performance of the selected banks was measured. It was found that foreign sector banks were performing better as compared to private and public sector banks.

Originality/value: The study is different from other studies, all eight dimension were considered for analysis of service quality of banks. It provides value as to which dimensions are important for the banks.

Practical implications: On the basis of the study, customers can find out which categories of banks provide better services. How the performance of the banks can be improved and can also be ascertained. The study has revealed the significant differences between the three categories of banks.

Limitations: The study was limited to the areas comprising Delhi NCR including areas of four states of Haryana, Uttar Pradesh, Delhi and Rajasthan. Moreover, only four banks were taken from public, private and foreign banks. Hence, the finding cannot be considered to be representing all parts of the country.

Key Words: Service quality, Public, private and foreign banks, SERQUAL scale

INTRODUCTION

Parasuraman has defined services as intangibles that consumers found difficult to understand. Oliver (1981) has suggested that the service-provider should attend to the complaints and problems of the customers to make their services more qualitative and effective. We believed that customers are sensitive for services which are provided to them. Services are generally considered as intangible that can be experienced but can't take any shape or size. It is evident that banking is one of the prominent service sector and the people who are associated with this sector in any form need efficient and effective services in all their transaction. So, it becomes mandatory to define the service in their context. Service quality consists of two words; service and quality. Service is generally considered as behavioral aspect of a person, which cannot be seen and touch as it is not having any physical existence. Parasuraman has defined services as intangible that consumers found difficult to understand. Oliver (1981) suggested that service provider should attend complaints and problems of the customers to make their services more qualitative and effective. Researcher also believed that customers are sensitive for services which are provided to them. Parasuraman (1988) found customer-perceived service quality in different sectors of banks, stockbrokers, credit card companies. Researcher also categorised service quality in ten factors i.e. competence, availability, courtesy, dependability, willingness, trustworthiness, assurance, empathy, communication, and tangibility. By using all these ten factors, the researcher developed 22 items scale popularly known as SERQUAL Scale, which helps to measure the quality of services. In 1985, Zeithaml, and Berry analysed the performance based quality of services by determining the actual difference between expectation and perception of the customers. Pratibha, Dabholkar and Rentz (1996) described pure service settings which included distance telephonic services, banking services and credit card services.

REVIEW OF LITERATURE

Parasuraman, Zeithaml and Berry (1985) found

that services are intangible, perishable and can't be standardized. Cronin and Taylor (1994) authenticated the SERVQUAL scale as an important tool to study the quality of services in various sectors. After studying the scale they proposed another scale which is better known as 'SERVPERF' scale. Anderson, Fornell and Lehmann (1994) gave their observation through this study that satisfaction among the users of any service is the result of the standard of the service they receive while purchasing either goods or services. Dabholkar, Thorpe and Rentz (1996) in their study discussed that the retailers who are concerned about savings should focus only on five dimensions rather than sub dimensions. Neff (2006) in his study focused on religiosity and spirituality and found a correlation between them. This study also showed higher level of participation and self-identification among Americans and Africans in this context. Silva and Munoz-Gallego (2010) the result of this study shows that cordial relations between banks and customers are most crucial factors. They further gave the idea to understand the need of the customers should be the core strategy of the banks for making better and sustained interpersonal relationship with customers. Kumari and Rani (2012) tried to find out the perception of customers through the five important factors. The study found that customer perception can be considered as the important factor to the overall performance of bank. Nimako, Gyamfi and Wandaogou (2013) the result shows that there is variation in the quality of services being provided. Customers from Merchant Bank Ghana are more satisfied in comparison of Ghana Commercial Bank. Rathee, Deveshwar and Rajain (2014) while comparing the quality of services of banks, the author found highest gap with empathy and reliability dimensions in public banks. Kaur and Kiran (2015) the result shows that public sector banks having better facilities for fund transfer online. Overall result reflected that foreign sector banks were provided better facility than public and private banks. Kiran, Manjushree and Meghana (2015) the result shows that around seventy percent mostly customers were satisfied with e-banking services and seventy three percent customers believed that e-banking services are secure and safe. Most of the customers were found aware

about e-banking services. Nayana and Veena (2015) found that age factor does not affect e-banking services in public sector banks. E-banking also created more mobile banking for its customers in public sector banks. E-banking also offers cost saving for its customers in public sector banks. Pinto and Rao (2016) the result shows that public sector banks are trustworthy. Most of the customers feel that public sector banks provides loan at low rate of interest. When two banks are compared it helps to find out that private sector banks provides new products in effective manner and are more organized as compared to public banks. Private sector banks are providing training to its employees to understand the customers' needs and to be more empathetic. Kamlani (2016) the result shows that in urban areas, performance of both banks are better in comparison to rural areas. Both public and private sector banks obtained negative scores. The study helps to found that private sector banks provide better services to different kind of customers as compared to public sector banks.

Problem Statement

The banks offer to their customers a variety of services. The gap is found among different kinds of services provided by the banks. It is the key to determine the relatively better performance of one bank from the other. This study was conducted to discover the gap between all the three categories of banks- public, private and foreign.

OBJECTIVES OF THE STUDY

The study seeks to measure service quality of public, private and foreign banks, and to identify the gap responsible for the bad performance, wherever necessary.

RESEARCH METHODOLOGY

As far as the research design is concerned, it's a tentative plan for any research to be conducted in due course of time under prescribed instructions and guidelines. The objective of the study is to

know the gap scores in perception and expectation. Exploratory research is used to know the perception of respondents. SERQUAL scale was developed on the basis of gap model. With the help of this gap model, expectations and perceptions of the customers were found as the result in concerning to the quality of services provided to them. The first original SERVQUAL scale was developed in 1984 by Parsuraman but with the passage of time, customer's habits and preferences have changed. To meet the requirements of the intervention of IT, the original scale with 22 statements has been extended to 36 statements. The added statements are generally related to the intervention of IT in providing and enhancing the quality of services. Top four performing banks from each sectors were selected for the study on the basis of total assets, deposits, operating profits, net profits and availability of branches. These are SBI, PNB, BOI and BOB from public sector, HDFC, ICICI, AXIS and YES banks from private sector and CITI, HSBC, Deutsche and Standard Chartered banks from the foreign sector.

All the branches of the selected banks available in the NCR were taken as the sample units for the study. Sample selected for the study were from 10, 6 and 2 districts of Haryana, Uttar Pradesh and Rajasthan respectively which comes in the National Capital Region (NCR). As a whole, 544 printed questionnaires were administered to the respondents of the branches of selected banks but at the time of editing, it was found that only 520 questionnaires were filled properly and were found eligible for analysis. Rest (24) questionnaires were either partially filled or wrongly filled like; double marking, not answered were dropped from including in the analysis and considered as sample death. So the final sample was consisted of 520 respondents. Paired comparison t-test, has been used as per the need of the objective.

DATA ANALYSIS AND INTERPRETATION

Gap Analysis in Service Quality on the Basis of Reliability

Table 1 shows the mean scores of expectation and

perception among the users of all three categories of banks based on the dimension of reliability. The mean score of perception among users regarding quality of service on basis of reliability provided in public sector banks is 3.08 and of expectation are

4.74. Similarly, in private sector banks it is 3.21 and 4.75 and in foreign sector banks the mean score of perception is 3.38 and the expected score is 4.51. Paired t-test was used to analyse the data.

Table 1: Paired Samples Statistics

Banks	N	Dimensions	Mean
Public Banks	256	Reliability (P)	3.08
		Reliability (E)	4.74
Private Banks	208	Reliability (P)	3.21
		Reliability (E)	4.75
Foreign Banks	56	Reliability (P)	3.38
		Reliability (E)	4.51

Paired Sample t-Test (Reliability)

Table 2 shows the gap scores of all three categories of banks based on reliability. The gap scores in public sector banks is 1.66, private sector bank is 1.54 and in foreign it is 1.13. This has been calculated on the basis of table (6.1.1). It was noticed from the analysis that banks operating under public umbrella are having wider gap in their

service standards especially based on reliability dimension in comparison to other two sectors. The p value (0.000) in public bank, private bank and foreign bank shows that there exists difference between the mean score of perceived and expected level of users of all the three categories of banks on the basis of reliability.

Table 2: Paired Sample t-Test (Reliability)

Banks	Dimension	Mean Gap (E-P)	Sig.(2- tailed)
Public	Reliability	1.66	.000
Private		1.54	.000
Foreign		1.13	.000

Gap Analysis in Service Quality on the Basis of Assurance

Table 3 shows the mean scores of expectation and perception among the users of all three categories of banks based on the dimension of assurance. The mean score of perception among users regarding

quality of service on basis of assurance provided in public sector banks is 3.25 and of expectation are 4.85. Similarly, in private sector banks it is 3.30 and 4.75 and in foreign sector banks the mean score of perception is 3.39 and the expected score is 4.25. Paired sample t test was used.

Table 3: Paired Samples Statistics

Banks	N	Dimensions	Mean
Public Banks	256	Assurance (P)	3.25
		Assurance (E)	4.85
Private Banks	208	Assurance (P)	3.30
		Assurance (E)	4.75
Foreign Banks	56	Assurance (P)	3.39
		Assurance (E)	4.25

Paired Samples t- Test (Assurance)

Table 4 shows the gap scores of all three categories of banks on the basis of assurance. The gap scores of public sector banks is 1.60, private sector bank is 1.45 and in foreign it is 0.86. This has been calculated on the basis of table 3. It was revealed

that public banks are having large gap while provided services on the basis of assurance when compared to private and foreign sector banks. The p value (0.000) shows that difference is found in the mean score of expectation and perception in all the three categories of banks.

Table 4: Paired Samples t- Test (Assurance)

Banks	Dimension	Mean Gap (E-P)	Sig.(2- tailed)
Public	Assurance	1.60	.000
Private		1.45	.000
Foreign		0.86	.000

Gap Analysis in Service Quality on the Basis of Empathy

Table 5 shows the mean scores of expectation and perception among the users of all three categories of banks based on the dimension of empathy. The mean score of perception among users regarding quality of service on basis of empathy provided in

public sector banks is 3.17 and of expectation are 4.81. Similarly, in private sector banks it is 3.24 and 4.71 and in foreign sector banks the mean score of perception is 3.29 and the expected score is 4.41. To know the actual gap of empathy paired t-test was used.

Table 5: Paired Samples Statistics

Banks	N	Dimensions	Mean
Public Banks	256	Empathy (P)	3.17
		Empathy (E)	4.81
Private Banks	208	Empathy (P)	3.24
		Empathy (E)	4.71
Foreign Banks	56	Empathy (P)	3.29
		Empathy (E)	4.41

Paired Samples t-Test (Empathy)

Table 6 shows the gap scores of all three categories of banks based on empathy dimension. The scores in public sector banks is 1.64, private sector bank is 1.47 and in foreign it is 1.12. This has been calculated on the basis of table 5. It was noticed that banks of government sector are having wider gap

while providing services on based on the dimension of empathy in comparison to other sector banks. The p value (0.000) of all the banks shows that there is some deviation between the mean score of perception and expectation in all the three categories of banks on the basis of empathy.

Table 6: Paired Samples t-Test (Empathy)

Banks	Dimension	Mean Gap (E-P)	Sig.(2- tailed)
Public	Empathy	1.64	.000
Private		1.47	.000
Foreign		1.12	.000

Gap Analysis in Service Quality on the Basis of Tangibility

Table 7 shows the mean scores of expectation and perception among the users of all three categories of banks based on the dimension of tangibility. The mean score of perception among users regarding quality of service on basis of tangibility provided in

public sector banks is 3.15 and of expectation is 4.84. Similarly, in private sector banks it is 3.48 and 4.73 and in foreign sector banks the mean score of perception is 3.78 and the expected score is 4.57. Paired sample t test helped to know the tangibility gap score.

Table 7: Paired Samples Statistics

Banks	N	Dimensions	Mean
Public Banks	256	Tangibility (P)	3.15
		Tangibility (E)	4.84
Private Banks	208	Tangibility (P)	3.48
		Tangibility (E)	4.73
Foreign Banks	56	Tangibility (P)	3.78
		Tangibility (E)	4.57

Paired Sample t-Test (Tangibility)

Table 8 shows the gap scores of all three categories of banks based on fourth dimension tangibility. The gap scores in public sector banks is 1.69, private sector bank is 1.25 and in foreign it is 0.79. This has been calculated on the basis of table 7. From the analysis it can be inferred that public sector banks are having more gap while providing services on

the basis of tangibility when compared with other sector banks. The p value (0.000) public bank, private sector and foreign sector shows that there does some difference in the mean scores of perception and expectation among the users in all the three categories of banks based on the dimension of tangibility

Table 8: Paired Sample t-Test (Tangibility)

Banks	Dimension	Mean Gap (E-P)	Sig.(2- tailed)
Public	Tangibility	1.69	.000
Private		1.25	.000
Foreign		0.79	.000

Gap Analysis in Service Quality on the Basis of Facilities

Table 9 shows the mean scores of expectation and perception among the users of all three categories of banks based on the dimension of facilities. The mean score of perception among users regarding quality of service on basis of facilities provided in

public sector banks is 3.04 and of expectation is 4.86. Similarly, in private sector banks it is 3.28 and 4.71 and in foreign sector banks the mean score of perception is 3.63 and the expected score is 4.53. Paired t- test was helpful to know the facilities gap scores.

Table 9: Paired Samples Statistics

Banks	N	Dimensions	Mean
Public Banks	256	Facilities (P)	3.04
		Facilities (E)	4.86
Private Banks	208	Facilities (P)	3.28
		Facilities (E)	4.71
Foreign Banks	56	Facilities (P)	3.63
		Facilities (E)	4.53

Paired Sample t-test (Facilities)

Table 10 the gap scores of all three categories of banks were found based on facilities dimension. The gap scores of public sector banks are 1.82, private sector bank is 1.43 and in foreign it is 0.90. This has been calculated on the basis of table 9. With the help of calculated scores, It was found that

public sector banks were having huge gap while providing services on the basis of facilities in comparison to private sector and foreign banks. The value of p(0.000) in different categories of public sector, private sector and foreign banks shows revealed that significant difference was found between the mean score of perception and expectation in all the three categories of banks.

Table 10: Paired Sample t-test (Facilities)

Banks	Dimension	Mean Gap (E-P)	Sig.(2- tailed)
Public	Facilities	1.82	.000
Private		1.43	.000
Foreign		0.90	.000

Gap Analysis in Service Quality on the Basis of Customer Relationship Management

Table 11 shows the mean scores of expected and perceived level among the users of three categories of banks when considered for CRM dimension. The mean score of perception among users regarding quality of service on basis of CRM (customer

relationship management) provided in public sector banks is 3.39 and of expected level is 4.89. Similarly, in private sector banks P is 3.60 and E was found to be 4.77 and in foreign sector banks the mean score of perception is 3.81 and the expected score is 4.51. Further this gap has been studied with the help of t-test.

Table 11: Paired Samples Statistics

Banks	N	Dimensions	Mean
Public Banks	256	CRM (P)	3.39
		CRM (E)	4.89
Private Banks	208	CRM (P)	3.60
		CRM (E)	4.77
Foreign Banks	56	CRM (P)	3.81
		CRM (E)	4.51

Paired Sample t-test (Customer Relationship Management)

Table 12 shows the gap scores of all three categories of banks on the basis of customer relationship management. The gap scores in public sector banks is 1.50, private sector bank is 1.17 and in foreign it is 0.70. This has been calculated on the basis of table 11. It was found that banks of first

category i.e. public banks are having higher gap in their service standards based on the dimension of CRM in comparison to other two sectors. The p value (0.000) in all the three categories of banks found that there does some differences between the mean scores of perceived and expected level in all the three categories of banks on the basis of customer relationship management.

Table 12: Paired Sample t-test (Customer Relationship Management)

Banks	Dimension	Mean Gap (E-P)	Sig.(2- tailed)
Public	Customer Relationship Management	1.50	.000
Private		1.17	.000
Foreign		0.70	.000

Gap Analysis in Service Quality on the Basis of Accessibility

Table 13 shows the mean scores of expectation and perception among the users of all three categories of banks based on the dimension of accessibility. The mean score of perception among users

regarding quality of service on basis of accessibility provided in public sector banks is 3.29 and of expectation is 4.88. Similarly, in private banks, it is 3.34 and 4.75 and in foreign sector banks the mean score of perception is 3.52 and the expected score is 4.56. Further this gap has been studied with this t-test.

Table 13: Paired Samples Statistics

Banks	N	Dimensions	Mean
Public Banks	256	Accessibility (P)	3.29
		Accessibility (E)	4.88
Private Banks	208	Accessibility (P)	3.34
		Accessibility (E)	4.75
Foreign Banks	56	Accessibility (P)	3.52
		Accessibility (E)	4.56

Paired Sample t-test (Accessibility)

Table 14 shows the gap scores of all three categories of banks on the basis of accessibility. The gap scores in public sector banks is 1.59, private sector bank is 1.41 and in foreign it is 1.04. This has been calculated on the basis of table 13. The result revealed that public banks are having

maximum gap while providing services on the basis of accessibility as compared to other banks. The p value (0.000) of three categories of banks revealed that significant difference found between the mean scores of perception and expectation in all the three categories of banks on the basis of accessibility.

Table 14: Paired Sample t-test (Accessibility)

Banks	Dimension	Mean Gap (E-P)	Sig.(2- tailed)
Public	Accessibility	1.59	.000
Private		1.41	.000
Foreign		1.04	.000

Gap Analysis in Service Quality on the Basis of Responsiveness

Table 15 shows the mean scores of expectation and perception among the users of all three categories of banks based on the dimension of responsiveness. The mean score of perception among users regarding quality of service on basis of

responsiveness provided in public sector banks is 3.07 and of expectation is 4.84. Similarly, in private sector banks it is 3.14 and 4.73 and in foreign sector banks the mean score of perception is 3.23 and the expected score is 4.48. Further this gap has been studied with the help of paired sample t-test to know the gap score.

Table 15: Paired Sample Statistics

Banks	N	Dimensions	Mean
Public Banks	256	Responsiveness (P)	3.07
		Responsiveness (E)	4.84
Private Banks	208	Responsiveness (P)	3.14
		Responsiveness (E)	4.73
Foreign Banks	56	Responsiveness (P)	3.23
		Responsiveness (E)	4.48

Paired Sample t-test (Responsiveness)

Table 16 disclosed that public sector banks are having huge gap while providing services on the basis of responsiveness when it is compared to foreign and private sector banks. The p value

(0.000) in public sector bank, foreign sector and private sector shows that there was also significant difference found between the mean score of perception and expectation in all the three categories of banks.

Table 16: Paired Sample t-test (Responsiveness)

Banks	Dimension	Mean Gap (E-P)	Sig.(2- tailed)
Public	Responsiveness	1.77	.000
Private		1.59	.000
Foreign		1.25	.000

FINDINGS OF THE STUDY

The p value (0.000) of public bank, foreign and private disclosed that there is significant difference between the mean score of perception and expectation in all the three categories of banks on the basis of reliability. On the basis of assurance dimension it helps to find out that public sector banks are having more gaps while providing services on the basis of assurance as compared to private and foreign sector banks. The p value (0.000) of all three category banks (public, private and foreign) shows that there were significant difference between the mean score of perception and expectation of all the three categories of banks on the basis of assurance. On the basis of empathy dimension the p value (0.000) shows that there is significant difference between the mean score of perception and expectation in all the three categories of banks on the basis of empathy. On the basis of tangibility dimension p value (0.000) in public, private and foreign banks found that there is significant difference between the mean score of perception and expectation in all the three categories of banks on the basis of tangibility.

On the basis of facilities p value (0.000) in public banks, private banks and foreign banks shows that significant difference found between the mean score of perception and expectation in all the three categories of banks on the basis of facilities. On the basis of CRM (customer relationship management) dimension p value (0.000) found that public, private and foreign banks shows that there is

significant difference between the mean score of perception and expectation in all the three categories of banks on the basis of customer relationship management dimension. On the basis of accessibility dimension p value (0.000) public, private and foreign sector banks shows that there is significant difference between the mean score of expectation and perception of all three categories of banks on the basis of accessibility. On the basis of responsiveness dimension p value (0.000) of all three categories banks shows that there was also significant difference found between the mean score of perception and expectation in all the three categories of banks on the basis of responsiveness.

CONCLUSION

On the basis of all the dimensions performance of the banks chosen different categories of the banks was measured and it was found that foreign sector banks are performing better as compared to private and public sector banks.

On the basis of the entire eight dimensions foreign sector banks are performing better as compared to public and private sector banks. On the basis of other six dimensions there is no significant difference while providing the services by all the categories of the banks. While analyzing the gap score based on the eight dimensions, it could be noted that there is least gap between the expected and perceived score of the foreign sector banks. It

means the foreign sector banks are providing better service to the customers in comparison to the public and private sector banks. The reason could be that foreign sector banks have limited branches and less number of customer base and are able to bring more satisfaction to the customers.

At the end it can be suggested to the public sector banks to improve their quality of service so that they could save their customer base else there are chances they may lose it to the private or foreign players in the banking sector.

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Marketing is merely a civilized form of warfare in which most of
the battles are won with words, ideas, and disciplined thinking

-Albert W. Armstrong



In the factory, we make drugs; in the store, we sell hope

- Charles Revson of Revlon, Inc.



While great devices are invented in the laboratory, great products are
invented in the marketing department

- William M. Davido

QUALITY OF WORK LIFE AND ITS INFLUENCE ON EMPLOYEE ENGAGEMENT

Evidence from Selected Manufacturing Units in India

Manisha Semwal, Atul Dhyani, and Varsha PS

ABSTRACT

Purpose: *The purpose of this study is to examine the relationship of the quality of work-life (QWL) and the employee engagement (EE) and how it affects the employees in manufacturing industries.*

Design/methodology/approach: *The data was collected from employees working in selected manufacturing units located at Bangalore. A structured questionnaire was used for collecting the data. Walton's (1975) norms for quality of work-life and the Utrecht's Work Engagement Scale (UWES), established by Schaufeli and Bakker (2003) were used to achieve the objectives. A non-random sampling method was used to analyse using descriptive analysis, correlation analysis, and multiple regression analysis.*

Findings: *The study has revealed that the variables of quality of work-life significantly contribute to the overall dimensions of employee engagement.*

Limitations/Future Research: *The study was limited to employees of selected manufacturing units at Bengaluru. Future research can be carried on across the country and its impact on employee engagement will be robust in the manufacturing sector. In a similar vein, the research can also make an effort for mixed methodology and phenomenology research approach to understand the employee engagement concept at workplace.*

Practical implications: *The study establishes the relationship and influences the quality of work-life and engagement of employees in manufacturing units.*

Keywords: *Quality of work-life, Employee engagement, Utrecht Work Engagement Scale (UWES), , Dedication, Adequate and Fair Compensation*

INTRODUCTION

The work-life balance of employees in the manufacturing industry is an attractive topic to study. The conflict between family and work is more likely to adversely affect the family environment, leading to reduced personal satisfaction and increased internal conflict in the family.

The organisation's human resources are among the ones that can give the company a competitive advantage in the form of engaged and committed employees. To achieve high employee productivity, companies are responsible for supporting their employees. Human resources are an essential element to an organisation, and it cannot be replaced by other resources. Regardless of how advanced innovation is used or how big the funds are planned, but everything is pointless without qualified resources. Human resources are a significant milestone in setting up a corporation that drives all the gears of the entire business.

The development of human resources is essentially an improvement in the performance of the employees, representing the workability of members of the company, so that each employee's performance is evaluated and calculated in accordance with organisational standards. Enhanced employee performance would enable the company to succeed in a competitive market environment. Efforts to enhance the performance of employees are also the most important management tasks, as the company's success in achieving its goals and its existence depends on its performance quality.

The QWL describes the benefits and drawbacks of the entire job environment of the workplace. The elementary drive has created the employment in the organisation and its surroundings conducive environment for the workforces and leads to the financial progress of a manufacturing company. High quality of work-life requires positive feeling about work, as enthusiasm reflects work and a good balance between life and personal interests. The QWL measures are critically necessary to be able to compete in the competitive market due to globalisation as well as to reduce the rate of turnover of employees. Work engagement is a

concept which can represent an individual's passion, dedication as well as strong commitment to work at a company. Work engagement requires a worker who is fully engaged in his job so that the employee has a huge role for his job. Some of the factors that can offer the company a competitive advantage in form of dedicated band motivated workers is human resources of the company. For an organisation, it is now essential to satisfy its employees with its work, since this work is an crucial part of most people's lives, that condition affect not only their physical well-being, but also a high level of social, psychological and spiritual well-being.

Although many studies have concentrated on the quality of work-life in North America, the idea seems to have been less common in Asia, especially in India. India is experiencing drastic changes in its social and economic system and is now paying attention to factors that will boost its competitiveness in the corporate world. Boosting the quality of work-life seems like one of those competitive factors that need to be addressed in business enterprises. Several researchers have long identified the benefits of quality of work-life (QWL), but the implications of the QWL on employee engagement are still under review. In this context, the current empirical study illustrates the social relation between the two constructs, i.e., quality of work-life and employee engagement.

REVIEW OF LITERATURE

Studies on Employee Engagement (EE):

The word 'engagement' was introduced and explained by Kahn (1990) in the research on 'emotional circumstances' of individual both participation and non-participation on exertion. He defined that the EE as 'connecting of industry associates of the job description; during at the workforce involvement they can render the best service and convey the actual reasoning and passionately attached to their work.' Harter *et al.* (2002) explained EE as 'each participant with their fulfilment and also an eagerness to do the job'. Saks (2006) delineated job work involvement thus; 'It is a step where each worker is focused and fascinated

towards his work. He was the foremost to distinguish among 'work involvement' and 'industry involvement'. He explained that the 'work involvement' is absolutely linked with the 'work fulfilment', 'Industry assurance', 'industrial public spirit nature' and linked with 'reason to resign'. Schaufeli, Salanova (2007) elucidates the labor immersion 'optimistic, a satisfying job associated with the phase of observance which explains the vigor, dedication, and absorption. Macey & Schneider (2008) highlighted in their study on the work involvement of three parameters: 'Employee mannerism involvement' 'cognizance phase involvement', 'and nature involvement'. 'Employee mannerism involvement' at workplace mentions the construction of both employee life and workplace. Whereas 'cognizance phase involvement' specifies feeling of energy and absorption, 'nature involvement', specifies the addition part performance. Engagement comprises three-pointers of physical component (eg., 'I really put my heart into my job'), Cognitive component (Ex: 'Performing my job is so absorbing that I forget about everything else') stated by Attridge (2009). Employee engagement or worker involvement is defined as each worker's cognitive, emotional and behavioural status of mind absorbed in anticipated organisational results' by Shuck and Wollard (2010). Jeevan Jyoti *et al.* (2015) claimed in their research that employees are motivated by their job and their performance in the workforce inspires them to do the work on time with their efficiency.

The main aspect in the workplace is the engagement of employees which creates a good working environment that delivers positive outcome. The outcome of improved employee engagement was examined by researchers, such as performance, greater productivity and commitment (Saks, 2006; Bailey *et al.*, 2017; Bakker & Albrecht, 2018). Past studies have evaluated perceived organisational support, job characteristics, procedural and distributive justice as a measure of employee engagement.

Nevertheless, no study has so far associated with the quality of work-life with employee engagement in manufacturing industries.

Studies on Quality of Work-life (QWL)

The QWL idea was first foremost put forth by Davis (1973), at the Columbia University Symposium, as 'refining area, association and the essential attributes of well toil execution and improved eminence of lifespan in the people' Gadon (1984); Wyatt *et al.* (2001); Sadique (2003); Islam *et al.* (2009). He recognised 'adequate income and fair compensation', 'safe & healthy employed circumstances', 'opportunities to use & develop human capacity', 'opportunities for career growth', 'social integration', 'constitutionalism', 'eminence of work-life', & 'social relevance of work' elements of fulfilment by QWL (Gupta & Sharma, 2011).

The concept of QWL stands ahead of the significance of procedure to save ecological and anthropological ideas as ignored with the support of the high-tech progression of efficiency and financial progress of Walton (1975). Schermerhorn *et al.* (1994, p. 51) validate that 'the definition is identified as merited fame in OB which is the pointer to the whole superiority of mankind at the workplace'.

According to Kanten and Sadullah, 2012, there is limited literature on QWL and most of the studies focus their attention on the relationship of QWL with job satisfaction, job performance, organisational commitment, labour relations and turnover intention. They observed that the marital status remained the only significant characteristics with the greatest impact on the work-life balance of female workers. There are also other influencing factors in work-life balance, including the number of workers, type of family, job experience and age (Verma and Tomar 2016).

The QWL is, however, associated with the concept of employee loyalty. Companies are developing employee loyalty programs to encourage and strengthen the company's best employees and to boost their commitment (Wahlberg *et al.*, 2017). Employee loyalty, in particular, is found to be significant in decreasing turnover in improving employee retention (Lu *et al.*, 2016; Miller 2017). Previous research shows that employee loyalty is directly impacted by work characteristics, job satisfaction, and employee empowerment (Chen, 2006; Kuo, *et al.*, 2010; Nayak *et al.*, 2018). Yao *et*

al. (2019) also observed that employee loyalty was significantly linked to organisational commitment.

The rising level of stress and demand in working places raises the attrition rate in the business. Therefore, companies today must create a flexible environment that helps employees to balance their job and family together (Mohanty and Jena 2016). A good quality of working life is important to attract and retain competent and skilled employees in the organisation. The greatest attributes of every company are employees and their success or failure depends on their ability and performance. Higher quality of work-life contributes to greater moral expectations for employees. It also reduces absenteeism and labour turnover.

OBJECTIVES OF THE STUDY

The study has following two objectives:

1. To identify the various drivers of quality of work-life that influence employee engagement in manufacturing units; and
2. To ascertain the relationship between quality of work-life and employee engagement.

Hypotheses

Based on the objectives of the study, following hypotheses were developed for testing:

H₀₁: There is no significant relationship between the overall dimensions of quality of work-life and the overall dimensions of employee engagement.

H₀₂: The quality of work-life has no impact on employee engagement.

RESEARCH METHODOLOGY

The research methodology used in this study is briefly described below.

Research Problem

The research problem for the study is to identify the various drivers of quality of work-life that influence employee engagement and to find out the relationship between the qualities of work-life, employee engagement specifically employees in manufacturing industries.

Research Design

The research is explanatory and expressive, empirical research which defines the QWL and EE. This research was conducted among the employees working in selected manufacturing industries, located in the Bangalore district of Karnataka state, which constituted the universe of the study.

The Survey Instrument Used

The data was collected through a survey based on a structured questionnaire. The questionnaire was divided into three sections, namely; Demographic characteristics, Walton's QWL model (1975); and Utrecht's Work Engagement Scale (UWES). The demographic profile was used to represent the demographic characteristics of the sample. In the questionnaire, the respondents were required to give necessary information, like gender, age, marital status, experience, qualification, and the designation.

Descriptive Statistics for Demographic Characteristics

The descriptive statistics for demographic profile of respondents were determined in the form of frequencies and percentages are shown in **Table 1**.

Table 1: Demographic Profile of Respondents

	Demographic Factors	Frequency	Percentage
Gender	Male	65	65.0
	Female	35	35.0
	Total	100	100.0
Marital Status	Married	26	26.0
	Single	74	74.0
	Total	100	100.0
Age	Less than 25 Years	40	40.0
	25-35 Years	44	44.0
	36-45 Years	11	11.0
	Above 45 Years	5	5.0
	Total	100	100.0
Experience	Less than 5 Years	59	59.0
	5-10 Years	23	23.0
	10-15 Years	12	12.0
	15-20Years	6	6.0
	Total	100	100.0
Designation	Senior Manager	14	14.0
	Junior Manager	27	27.0
	Executive	33	33.0
	Supervisor	26	26.0
	Total	100	100.0
Qualifications	Post Graduate	53	53.0
	Graduate	45	45.0
	Intermediate	1	1.0
	Other	1	1.0
	Total	100	100.0

Quality of Work-life (QWL)

Walton's quality of work-life (1975) was incorporated and examined the worker's insights about the QWL. This scale comprised of thirty-five elements reviewed and computing the 8 extents: 'adequate and fair compensation', 'safe and healthy working conditions', 'development of human

capacities', 'opportunity for growth and security', 'social integration', 'constitutionalism', 'work and total life space' and 'social relevance'. Moreover, thirty-five components valued and used a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Utrecht's Work Engagement Scale (UWES)

The (Utrecht's Work Engagement Scale) was taken to evaluate employee's engagement in manufacturing units. This scale is generally used for computing work engagement. Schaufeli and Bakker (2003) are introduced on this scale. The structures of the seventeen components scale evaluate and assess the 'vigour' (6 items), 'absorption' (6 items), and 'dedication' (5 items). All the components are recorded on a seven-point incidence assessment gauge ranging from 0 (never) to 6 (always).

Variables

In this study, the quality of work-life were independent (predictor) variables, and the elements of employee engagement were dependent (outcome) variables.

Data Collection

Convenience sampling was used to collect the data through the questionnaire. The sample size for the study was 100 employees in the various departments of manufacturing industries located in the Bangalore district of Karnataka state.

DATA ANALYSIS AND INTERPRETATION

Cronbach's Alpha for Dimensions of Questionnaires of QWL & UWES

The Cronbach's Alpha for dimensions of the questionnaire on QWL & UWES are presented in **Table 2**.

Table 2: Cronbach's Alpha for Dimensions of Questionnaires on QWL & UWES

Questionnaire	Reliability Statistics		
	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
QWL	.959	.961	35
UWES	.950	.952	17

From the above table, all the dimensions of both QWL and UWES are reliable with the Cronbach's coefficient alpha, beyond the tiniest suitable level of 0.95 on all the extents. Therefore, it reveals acceptable reliability statistics.

Mean and Standard Deviations of Demographic Factors

The mean and standard deviation of the demographic factors are summarised in **Table 3**.

Table 3: Mean and Standard Deviation of Demographic Factors

Statistics						
		1. Gender	2. Marital Status	3. Age	4. Experience	5. Designation
	N	100	100	100	100	100
Mean		1.35	1.74	1.81	1.65	2.71
Std. Deviation		.479	.441	.825	.914	1.008
Percentiles	25	1.00	1.00	1.00	1.00	2.00
	50	1.00	2.00	2.00	1.00	3.00
	75	2.00	2.00	2.00	2.00	4.00

Descriptive Statistics for the Dimensions of Employee Engagement (UWES)

The descriptive statistics for the dimensions of employee engagement (UWES) are presented in **Table 4**.

Table 4: Mean, Standard Deviation, Minimum, Maximum & Percentiles for the Dimensions of Employee Engagement (UWES)

		Vigour	Dedication	Absorption	Variable Values used in SPSS
N	Valid	100	100	100	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree 6=Other
Mean		15.0700	22.8900	27.5300	
Std. Deviation		3.58238	5.48809	5.51665	
Minimum		7.00	8.00	14.00	
Maximum		20.00	30.00	35.00	
Percentiles	25	13.0000	19.0000	23.0000	
	50	16.0000	24.0000	27.0000	
	75	18.0000	27.0000	34.0000	

As shown in the table, the lowest mean value was for Vigour (Mean=15.070, S.D =3.58), followed by Absorption (Mean=22.89, S.D=5.48), while the highest mean value was for Dedication (Mean=27.53, S.D =5.51).

Descriptive Statistics for the Dimensions of QWL Walton Model

The descriptive statistics for the dimensions of QWL is shown in **Table 5**.

Table 5: Mean, Standard Deviation, Minimum, Maximum & Percentile for the Dimensions of Quality of Work-life (QWL)

QWL		Adequate and fair compensation	Safe and healthy environment	Human capacity	Growth and Security	Variable Values used in SPSS
N	Valid	100	100	100	100	
Mean		14.3300	22.2200	18.8100	14.4300	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree 6=Other
Std. Deviation		3.43204	4.98803	4.20124	3.30978	
Minimum		4.00	6.00	5.00	4.00	
Maximum		20.00	30.00	25.00	20.00	
Percentiles	25	12.0000	19.0000	17.0000	12.0000	
	50	15.0000	21.5000	20.0000	14.0000	
	75	17.0000	27.0000	21.0000	16.0000	

		Social Integration	Constitutionalism	Total Life Space	Social Relevance	Variable Values used in SPSS
Valid		100	100	100	100	
						1=Strongly Disagree 2=Disagree
Mean		15.5200	15.0400	11.6100	19.1100	3=NeutralStd.
Deviation		3.16062	3.58707	2.55008	3.83207	4=Agree
Minimum		7.00	7.00	4.00	10.00	5=Strongly Agree
Maximum		20.00	20.00	15.00	25.00	6=Other
Percentiles	25	14.0000	12.2500	10.0000	16.0000	
	50	16.0000	16.0000	12.0000	19.0000	
	75	18.0000	18.0000	13.0000	22.0000	

From the above table, the lowest mean value was for 'Total Life Space' (Mean=11.61, S.D =2.5), followed by 'Adequate and Fair Compensation; (Mean =14.33, S.D =3.43), 'Growth and Security' (Mean =14.43, S.D =3.30), 'Constitutionalism' (Mean =15.04, S.D =3.58), 'Social Integration' (Mean =15.52, S.D =3.16), 'Human Capacity' (Mean =18.81, S.D =4.20), 'Social Relevance' (Mean =19.11, S.D =3.83), while the highest safe and healthy environment, the mean value was; Mean=22.2, S.D=4.98.

Pearson Correlation Coefficient

The Pearson Product-Moment Correlation Coefficient (Pearson's 'r') has been used to determine how strong is the relationship between dimensions of the QWL & UWES. Pearson's 'r' is a measure of the linear dependence between dimensions of QWL and UWES, giving the value between +1 and -1 (+1 = Positive linear correlation, 0 = No linear correlation, -1 = Negative linear correlation). The result of calculation of Pearson's 'r' is shown in the Table 6.

Table 6: Pearson's Correlation Matrix between Dimensions of QWL & UWES

UWES QWL		Vigour	Dedication	Absorption
Adequate and fair compensation	Pearson Correlation	1	.667**	.670**
	Sig. (2-tailed)		.000	.000
	N	100	100	100
Safe and healthy environment	Pearson Correlation	.667**	1	.653**
	Sig. (2-tailed)	.000		.000
	N	100	100	100
Human capacity	Pearson Correlation	.670**	.653**	1
	Sig. (2-tailed)	.000	.000	
	N	100	100	100
Growth and Security	Pearson Correlation	.601**	.700**	.753**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100

Social Integration	Pearson Correlation	.634**	.690**	.799**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100
Constitutionalism	Pearson Correlation	.649**	.632**	.774**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100
Total Life Space	Pearson Correlation	.524**	.486**	.646**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100
Social Relevance	Pearson Correlation	.662**	.692**	.712**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100

Correlations				
UWES QWL		Vigour	Dedication	Absorption
Adequate and fair compensation	Pearson Correlation	.601	.634**	.649**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100
Safe and healthy environment	Pearson Correlation	.700**	.690	.632**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100
Human capacity	Pearson Correlation	.753**	.799**	.774
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100
Growth and Security	Pearson Correlation	1**	.608**	.612**
	Sig. (2-tailed)		.000	.000
	N	100	100	100
Social Integration	Pearson Correlation	.608**	1**	.837**
	Sig. (2-tailed)	.000		.000
	N	100	100	100
Constitutionalism	Pearson Correlation	.612**	.837**	1**
	Sig. (2-tailed)	.000	.000	
	N	100	100	100
Total Life Space	Pearson Correlation	.629**	.661**	.726**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100
Social Relevance	Pearson Correlation	.639**	.735**	.767**
	Sig. (2-tailed)	.000	.000	.000
	N	100	100	100

As shown in the table, there is a statistically significant and direct correlation between all the three dimensions of work engagement (i.e. vigour, dedication and absorption) with all three dimensions of QWL (i.e. adequate and fair compensation, safe and healthy environment, development of human capacities, growth and security, social integration constitutionalism, total life space and social relevance)

Multiple Regression Analysis

In this study, multiple regression has been used to predict the variables of employee engagement (dependent, UWES) based on the value of two other variables i.e. training and career development (independent, QWL). The independent variables are also called the predictor, explanatory or regressor variables. The SPSS was used for the study and the results were interpreted in three main tables, assuming that no assumptions were

infringed. These tables are: (a) the Model Summary, that provides the R , R^2 , adjusted R^2 , and the standard error of the estimate, which can be used to determine how well a regression model fits the data, (b) the ANOVA table in which the F -ratio tests whether the overall regression model is a good fit for the data, (c) the Coefficient table showing how often the dependent variable varies with an independent variable when all other independent variables are kept constant. Also, the relevant scatter plots and histogram (with a superimposed normal curve) have been depicted for better appreciation.

Multiple Regression Model for Variables of QWL and UWES

This model shows the relationship between the dependent (UWES) and the independent (QWL) variables, which were computed and are presented in Fig 1.

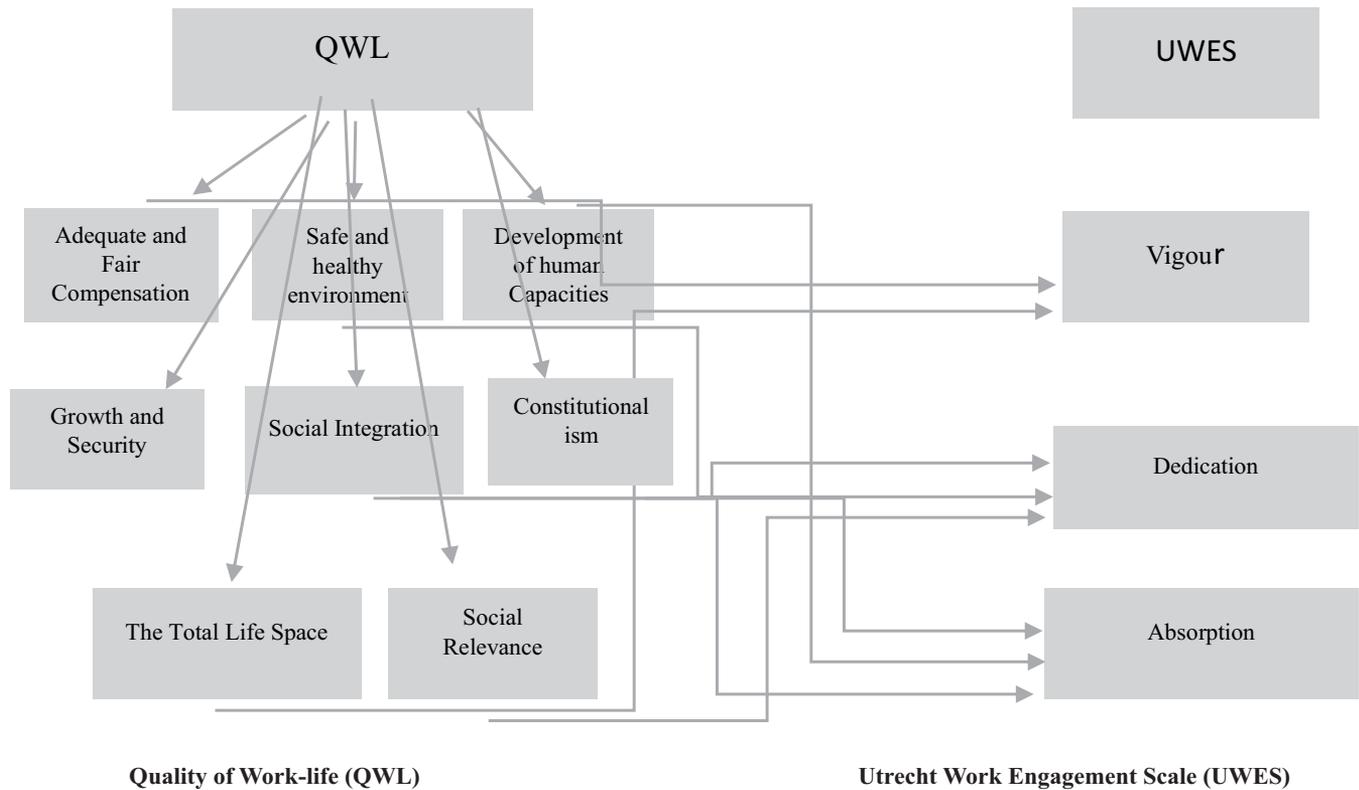


Fig 1: Multiple Regression Model for Variables of QWL and UWES

Multiple Regression Analysis (QWL and Vigour)

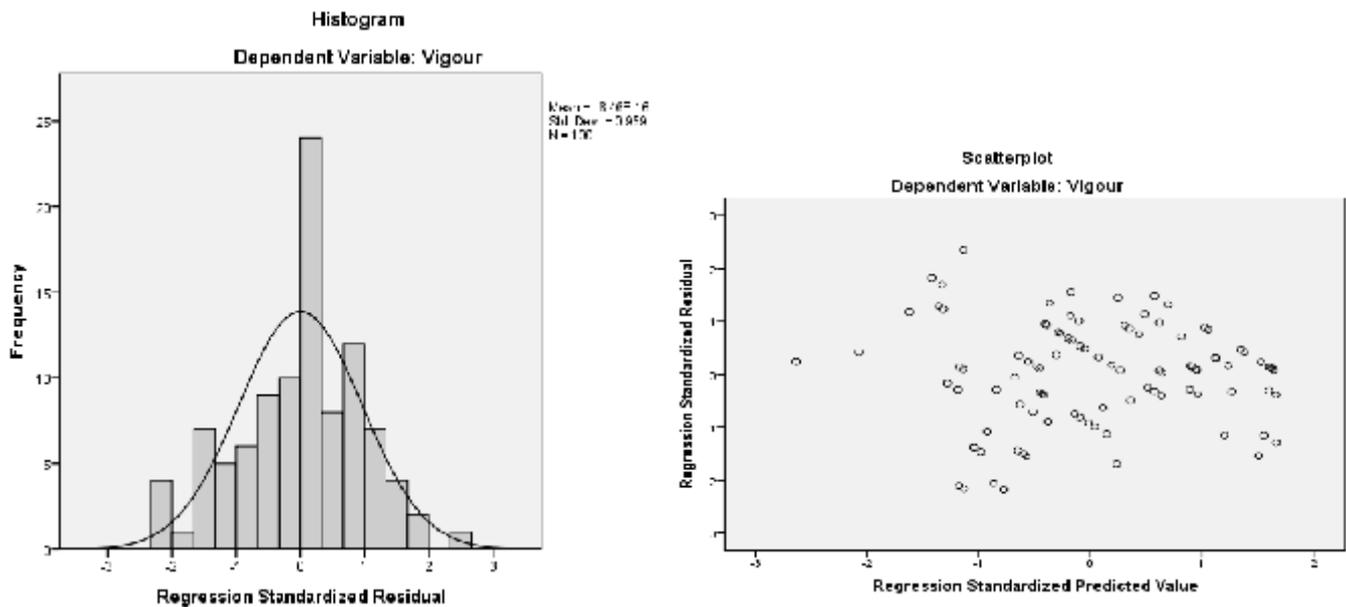
The relationship and normality between QWL & Vigour and the histogram of regression standardized residual analysis of the variables are

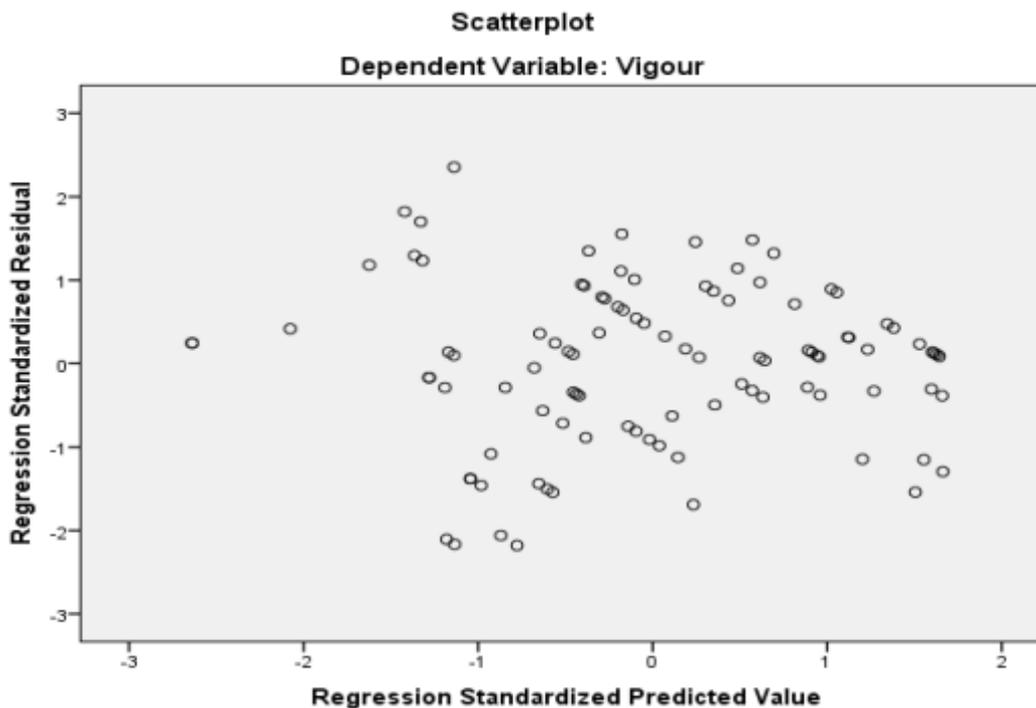
shown in Fig 2. The normal P plot shows the normality between the dependent and independent variables which is also shown in the figure.

Table 7: Multiple Regression Analysis (QWL and Vigour)

Model	Unstandardised Coefficients		Standardized Coefficients	t	Significance
	B	Std Error			
Constant	-0.546	1.26		-0.433	0.666
Adequate and fair compensation	0.044	0.099	0.042	0.448	0.655
Safe and healthy environment	0.246	0.081	0.343	3.042	0.003
Human capacity	0.197	0.112	0.23	1.757	0.082
Growth and Security	-0.085	0.122	-0.078	-0.691	0.491
Social Integration	0.302	0.152	0.266	1.988	0.05
Constitutionalism	-0.273	0.132	-0.273	-2.066	0.042
Total Life Space	0.613	0.167	0.436	3.67	0.000
Social Relevance	-0.036	0.125	-0.038	-0.284	0.777

Fig 2: Multiple Regression Analysis (QWL & Vigour)



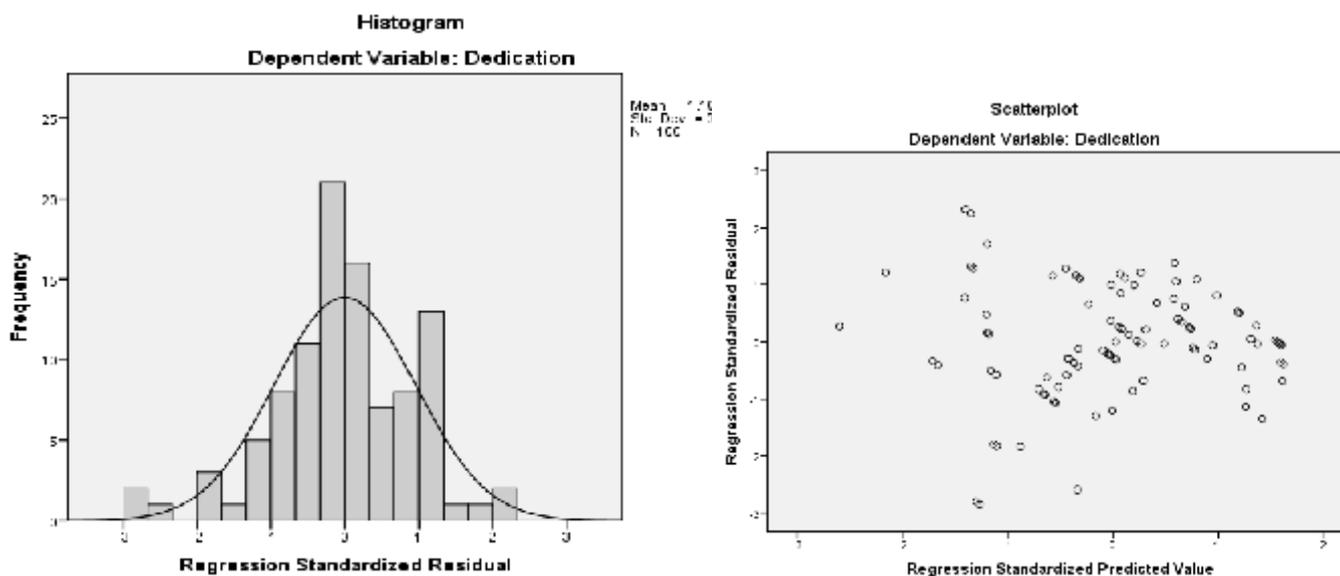


Multiple Regression Analysis (QWL and Dedication)

The relationship and normality between the QWL and Dedication (DE-3) and the histogram of regression standardized residual analysis of the

variables are shown in Fig 3. However, the normal P plot also shows the normality between the dependent and independent variables, which is shown in both the figures.

Fig 3: Multiple Regression Analysis (QWL and Dedication)



Model Summary

In the Model Summary, the value of R indicates a

good level of prediction. This is summarised in

Table 8.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.828 ^a	.686	.658	3.20790	2.008

As shown in the table, the R^2 value that our independent variables explain good % of the variability of our dependent variable that has been further interpreted by adj. R^2 values in respective tables.

ANOVA Table

The ANOVA table shows that the independent variables statistically and significantly predict the dependent variable. This is summarised in **Table 9.**

Table 9: ANOVA^a Computations

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2045.341	8	255.668	24.845	.000 ^b
	Residual	936.449	91	10.291		
	Total	2981.790	99			

a. Predictors: (Constant), Social Relevance, Growth and Security, adequate and fair compensation, Social Integration, Safe and healthy environment, Total Life Space, Human capacity, Constitutionalism. b. Dependent Variable: Dedication

From the above **Table 9**, the ANOVA test of the model indicates the overall goodness of fit of the model. The F value of the model is 24.85 which is good and indicates the goodness of fit of the model at the 0 % level of significance. It indicates that there is a significant relation of QWL on Dedication.

As shown in the table, the regression model is a good fit for the data. Statistical significance of each of the independent variables is obtained from the 'Coefficient Tables' that tests whether the unstandardised (or standardized) coefficients are equal to 0 (zero) in the population. With a value of $p < .05$, we can conclude that the coefficients are

statistically significantly different from 0 (zero). The t -value and corresponding p -value (Sig.) suggest that all independent variable coefficients are statistically and significantly different from 0 (zero).

Findings of the Study

Further results indicate that there is a statistically significant link between the variables of QWL (adequate and fair compensation- the compensation offered by the organisation to employee are satisfied adequately, 'my financial needs are fulfilled properly', 'safe and healthy environment' – 'Time flies or goes when I am working', 'my organisation is well equipped, automated, streamlined and pollution-free') and the overall dimensions of employee engagement (i.e. 'Vigour-at my job I feel strong & vigorous', dedication-'My job inspires me', Absorption-'I am immersed in my job'). Adequate fair and compensation and other dimensions of quality of

work-life have a relationship between all employee engagement dimensions (i.e. vigor, dedication, and absorption) Hence, the null hypothesis (H_{01}) stands rejected.

The results show that a statistically significant and clear association between QWL variables (development of human capacities-The information passed from higher hierarchy to all employees is accurate, employee new suggestions to bring changes in the organisation is appreciated, social relevance-'My work-life matches the social life completely', 'My social and individual requirement is neglected in the present organisation') and the overall dimensions of employee engagement (i.e. Vigour-'At my job I feel strong and Vigorous', Dedication-'My job inspires me', Absorption-'I am immersed in my job'), Hence, the quality of work-life has an impact on the employee engagement variables. So, the second null hypothesis (H_{02}) is also rejected.

CONCLUSION AND POLICY IMPLICATIONS

The study has revealed that variables of quality of work-life significantly contribute to the overall dimensions of the employee engagement. These results are in consonance with those of previous studies (eg., Kanten, S., and Sadullah, O. 2012; Wahlberg *et al.* 2017). The results demonstrate that an improvement in the quality of work-life practices can substantially increase the engagement level of employees and organisational effectiveness. The research has concluded that QWL in manufacturing industries significantly contribute to the variables of employee engagement. The results of the study will be of great relevance to business managers, who are responsible for fulfilling and maintaining the quality of work-life of employees and a responsibility to retain them.

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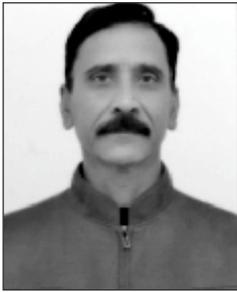
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Everyone lives by selling something

- **Robert Louis Stevenson**



A business that makes nothing but money is a poor business.

-**Henry Ford**



The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself.

George Bernard Shaw
Man and Superman



Management is efficiency in the ladder of success; leadership determines whether the ladder is leaning against the right wall.

Stephen R. Covey,
The Seven Habits of Highly Effective People

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We make a living by what we get,
We make a life by what we give.



Life ends when you stop dreaming,
Hope ends when you stop believing,
Love ends when you stop caring,
So, dream, hope, and love.
Make life beautiful!



In religion, faith is a virtue,
In science, faith is a vice.



Successful people always have two things on their lips:
"silence and smile".
Smile to solve the problem,
and silence to avoid the problem.

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If you stand for a reason,
be prepared to stand alone like a tree,
And if you fall on the ground,
fall like a seed that grows back to fight again.



Live life in such a way that our presence is celebrated, not tolerated.



Two things indicate weakness: To be silent, when it is proper time to speak



And to speak, when it is proper time to be silent.



- Power tends to corrupt, absolute power corrupts absolutely.

-John Action



- A man should never be ashamed to own that he has been in the wrong,
Which is but saying in other words that he is wiser today than he was yesterday.

-Alexander Pope, Poet (1688-1744)

Abraham Lincoln's Letter to his Son's Headmaster

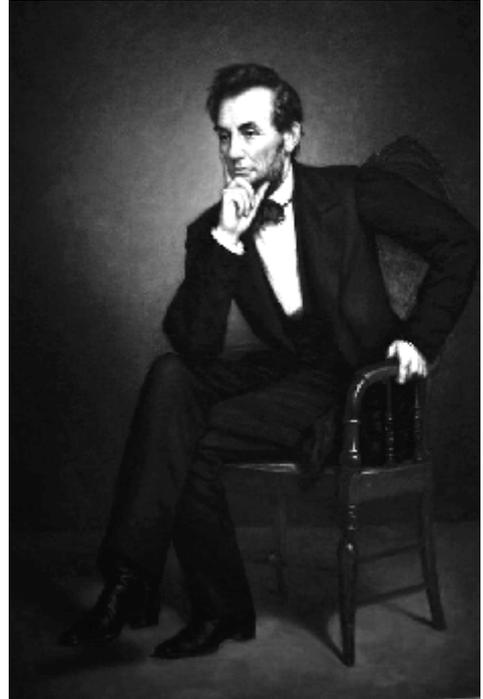
He will have to learn, I know, that all men are not just, all men are not true, but teach him also that for every scoundrel there is a hero; that for every selfish politician, there is a dedicated leader... Teach him that for every enemy there is a friend.

It will take time, I know, but teach him, if you can, that a dollar earned is of far more value than five found...Teach him to learn to lose...and also to enjoy winning. Steer him away from envy, if you can, teach him the secret of quiet laughter. Let him learn early that the bullies are the easiest to lick...Teach him, if you can, the wonder of a book...but also give him quiet time to ponder the eternal mystery of birds in the sky, bees in the sun, and flowers on a green hillside.

In school, teach him it is far more honorable to fail than to cheat...Teach him to have faith in his own ideas, even if everyone tells him they are wrong...Teach him to be gentle with gentle people, and tough with the tough. Try to give my son the strength not to follow the crowd when everyone is getting on the bandwagon...Teach him to listen to all men...but teach him also to filter all he hears on a screen of truth, and take only the good that comes through. Teach him, if you can, how to laugh when he is sad...Teach him there is no shame in tears. Teach him to scoff at cynics and to beware of too much sweetness...Teach him to sell his brawn and brain to the highest bidders, but never to put a price tag on his heart and soul. Teach him to close his ears to a howling mob...and to stand and fight if he thinks he is right.

Treat him gently, but do not coddle him, because only the test of fire makes fine steel. Let him have the courage to be impatient...let him have the patience to be brave. Teach him always to have sublime faith in himself, because then he will always have sublime faith in mankind.

This is a big order, but see what you can do...He is such a fine little fellow, my son!



A black and white image of a signature in cursive script. The signature is written in a fluid, elegant hand and appears to read "Abraham Lincoln". The background is dark, making the white ink of the signature stand out.

Intelligence Versus Wisdom

This is so so good ... I had never known these profound distinctions between Intelligence and Wisdom (Quotes from our ancient Books)

- Intelligence leads to arguments. Wisdom leads to settlements.
- Intelligence is power of will. Wisdom is power OVER will.
- Intelligence is heat, it burns. Wisdom is warmth, it comforts.
- Intelligence is pursuit of knowledge, it tires the seeker. Wisdom is pursuit of truth, it inspires the seeker.
- Intelligence is holding on. Wisdom is letting go.
- Intelligence leads you. Wisdom guides you.
- An intelligent man thinks he knows everything. A wise man knows that there is still something to learn.
- An intelligent man always tries to prove his point. A wise man knows there really is no point.
- An intelligent man freely gives unsolicited advice. A wise man keeps his counsel until all options are considered.
- An intelligent man understands what is being said. A wise man understands what is left unsaid.
- An intelligent man speaks when he has to say something. A wise man speaks when he has something to say.
- An intelligent man sees everything as relative. A wise man sees everything as related.
- An intelligent man tries to control the mass flow. A wise man navigates the mass flow.
- An intelligent man preaches. A wise man reaches. Intelligence is good but wisdom achieves better results.

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