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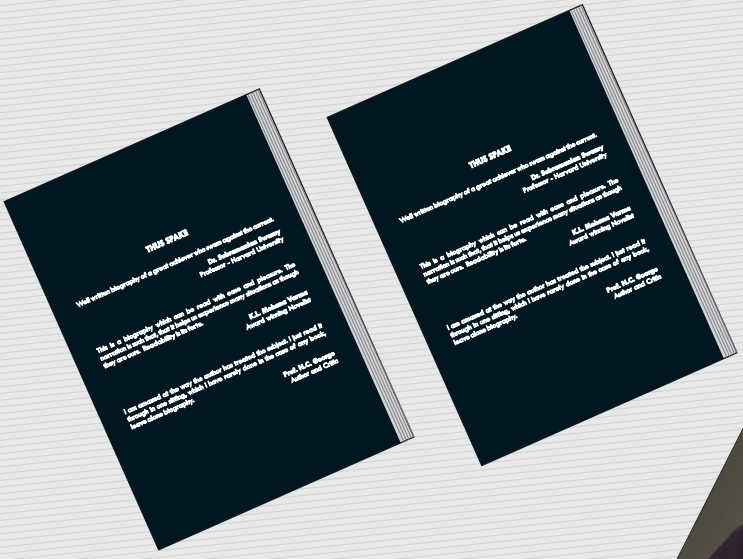
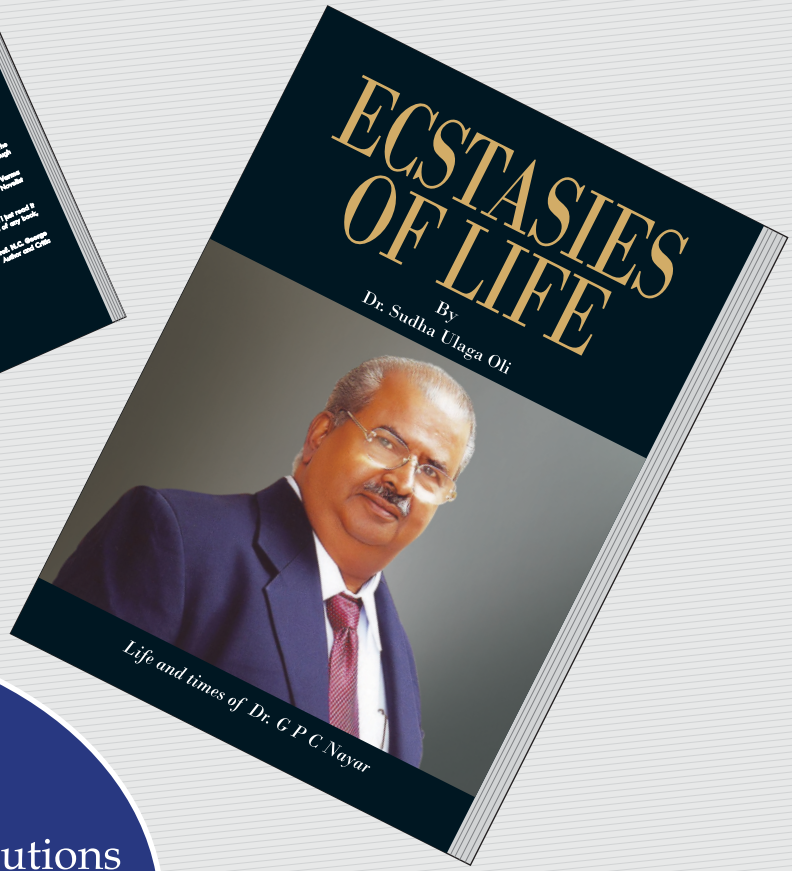
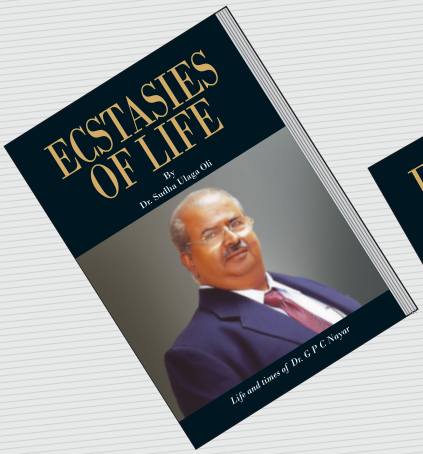
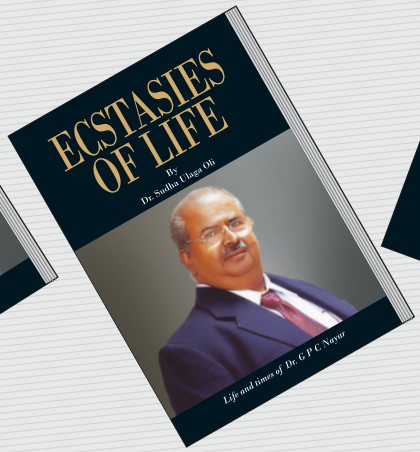




Here's an entrepreneur
who has created
some excellent academic institutions
in an unfriendly environment.
It is a saga of trials and tribulations
in an extremely readable manner
by a consummate
writer in English.





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Contents

October - December 2021, Vol. XVIII, Issue No. 4

Articles

Chairman's Overview

We bid adieu to the year 2021 and welcome the new year 2022 with the release of this issue. 2021 has been a year that showed us the light at the end of the tunnel- with massive vaccination drives globally leading to the relative stabilisation of the Covid situation and some signs of recovery in the world economy and opening up of the international travel and tourism sector. However, the identification and isolation of the fast-spreading Omicron strain has caused some setbacks with countries issuing renewed control on international travel. It is a wait and watch situation, though there is not much cause for panic as the Omicron strain is less potent than the prior Delta strain. Moreover, increased vaccine coverage might mean that it won't cause as much havoc as Delta did.

Industry analysts predict that the world economy is expected to continue on the trajectory to recovery. Pent up consumer demand is what will drive this economic recovery. Growth projections expect India to be the fastest-growing economy in the world. However, disruption, volatility and uncertainty are here to stay for the long term and are now an accepted part of the business environment. Markets and companies have learned to take uncertainty in stride, and lessons learned during the pandemic are part of the competitive advantage of businesses today. In the coming year, some key trends to look out for are decentralised finance (DeFi), a correction in crypto markets, early versions of Web 3.0, an increasing shift towards de-globalisation in supply chains, sustainability in all business operations, and forced innovations leading to an increase in start-ups. There is also likely to be increased workforce volatility, and a shifting talent pool as people demand more flexibility in terms of hours and physical spaces.

As we bring the year to a close and look forward in hope to what the next year brings, we wish our readers a genuinely informative and educative experience.

Dr. G. P. C. NAYAR
Chairman, SCMS Group of Educational Institutions.

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Editors

Editorial Board

Editorial

Searching for information today has become easy, thanks to various search engines. Such searches, if not done professionally, are seen to influence the outcome of research. Contrary to the above, the study on “Do fintech-related keywords influence bank return?" proved otherwise. The finding using Vector Auto Regression Model showed that there is no evidence of the influence of fintech-related keywords on bank returns.

The study on whether Board leadership composition structure influences the performance of companies showed a positive effect in the study of 213 companies over a 16-year span. The topic, if studied further, should provide a ground rule for policymakers. Another study on Gender Diversity and Dividend Policy concluded that board gender diversity when moderated by board independence, does not significantly impact the dividend policy of Nigerian non-financial companies.

To change from an existing system that was proven good for decades demands a lot of courage and determination. Indian Accounting Standards (Ind AS) which was adopted by companies in India since 1977 had to be changed to bring in harmony with IFRS. The article highlights the implementation of IFRS in a phased manner and its impact thereon. Another article suggests significant insight towards understanding collaboration as a driver for accelerating performance among the resource-constrained firms. This approach comes to the rescue of SMEs especially in those regions where industrial and infrastructure developments are still below the international and national standards.

Profitability ratios, liquidity ratios, debt to equity ratio- the list is far more. How can an amateur investor understand the corporate financial status of a company? The study by Shilpa H Shetty and Theresa Nithila Vincent suggests key indicators after analyzing twelve ratios from the financial statements of 162 sample companies for five financial years. The suggested key indicators would assist the shareholders and creditors in differentiating a financially distressed company from the others in the Indian industrial sector.

Who buys an authentic Banarasi Silk saree? Is the buyer so conscious about the authenticity of weaving? The case study of Banarasi Silk Apparel Consumers revealed integrity, vanity, status, consumption and product knowledge as significant predictors of attitude towards its purchase.

An empirical analysis of the willingness for expatriation assignment examines the effect of prior international experience, career motivation, and parental support on individuals'. The study revealed positive results using social learning theory.

We wish all our patrons an enriching reading experience and a fruitful year ahead.

Dr. Radha Thevannoor

Do Fintech-Related Keywords Influence Bank Return? A Case Study from Vietcombank and Sacombank in Vietnam

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Abstract

The study is conducted to answer the question 'Do fintech-related keywords on searching Google influence bank return?' The weekly data from 2016w1 to 2021w2 is extracted from Google Trends and the Vietstock website. The findings by VAR (Vector Autoregression) show no evidence of the association of fintech-related keywords with bank returns. Using OLS (Ordinary Least Squares), the Vietcombank return is not significantly influenced by the fintech-related keywords. In contrast, the term “financial technology” and the lag one week of the Vietnamese form of “mobile payment” are negatively significant with the Sacombank return, and the Vietnamese form of “peer-to-peer lendings” is significantly positive with the same. Moreover, the fintech-related keywords in English are more preferred than the Vietnamese forms.

Keywords: *Fintech-related keywords, Google Trends, Bank Return, Vietnam*

1. Introduction

The term "fintech" is the buzzword derived from the combination of the words "financial" and "technology." Fintech is used to indicate disruptive technologies in the finance sector, especially in commercial banks. Therefore, there is a strong link between fintech and banks (Lee & Shin, 2018; Goldstein et al., 2019; Thakor, 2020; Cheng & Qu, 2020). Moreover, by collecting fintech-related keywords on the internet, Cheng and Qu (2020) and Wang et al. (2021) investigated the influence of fintech information flow on the bank. Therefore, we consider that the volume of searching "fintech" on the internet might influence the bank.

Google Search Engine (called Google) is the most popular tool to find out information by searching keywords. Investigation of the impact of searching keywords on the various socio-economic aspects has attracted many scholars. Huynh (2019) evaluated the influence of keywords on entrepreneurs (measured by the number of new businesses and the amount of cash spent in registration). Nasir et al. (2019) discovered that keywords had a beneficial effect on Bitcoin return and trading volume. Bijl et al. (2016) investigated the inverse association between keywords and stock return volume. In Vietnam, Thailand, and Philippines, Nguyen et al. (2019) found that the increase of keywords is negative with stock return. Besides that, Kim et al. (2019) found that the searching keyword on Google can predict stock volatility and trading volume. Therefore, we argue that there is a significant impact of searching keywords on stock return.

As mentioned above about the strong relationship between banks and fintech, and the impact of searching keywords on stock return, we argue that the fintech-related keywords might influence the bank return. To the best of our knowledge, no study has been conducted to investigate the impact of fintech-related search phrases on banks; consequently, we feel that doing the study is vital to add a fresh understanding into the link between fintech and banks in the digital era.

The case study of Vietcombank and Sacombank in Vietnam is chosen for the study because of two reasons. Firstly, in developing countries as Vietnam, the need for banking transactions with small value is vast, while the physical bank transaction offices are limited; thus, developing mobile banking applications is a mandatory requirement for banks to meet customer needs (Demirgüç-Kunt et al., 2018; Tripathy & Jain, 2020; Pousttchi & Dehnert, 2018). Through the use of mobile banking applications, customers can make transactions quickly. According to Google Play, the mobile banking application of Vietcombank and Sacombank has had many downloads. Secondly, in Vietnam, the state-owned bank is the critical factor of bank operation (Malik et al., 2016; Le et al., 2019). We contend that there is a distinction between state-owned banks and non-state-owned banks in terms of fintech adoption. As a result, Vietcombank and Sacombank have been picked to carry out the research. Vietcombank is regarded as a state-owned bank since the government is the largest stakeholder, owns the majority of the shares, and oversees the bank's operations, whereas Sacombank is strictly a joint-stock bank.

As a result, this study aims to perform a case study of Vietcombank and Sacombank in Vietnam to evaluate the impact of fintech-related keywords on bank return.

2. Literature Review

To the best of our knowledge, it is the first research to investigate the impact of fintech-related keywords on bank return; consequently, the background for this study is formed by studying related and existing articles on the impact of keywords on stock return and the impact of fintech on banks.

2.1 The impact of keywords on stock return

Bijl et al. (2016) used Google Trends to gather the number of search phrases to anticipate company returns in the S&P 500 in the United States from January 1, 2008 to December 31, 2013. The estimation findings revealed that Googling keywords had a negative influence on stock return. The authors concluded that the volume of searching keywords might predict stock return, and this relationship might change over time. From 2009 to 2016, Nguyen et al. (2019) applied the system-GMM to process the Fama-French model. According to the data, Googling keywords drastically reduced stock returns in the Philippines, Thailand, and Vietnam, and investors are sensitive to news on the internet. Using data from NIFTY 50 companies in the Indian stock exchange market from July 2012 to July 2017, Swamy and Dharani (2019) discovered a positive relationship between high searching keyword volume and

stock returns, and domestic investors are more sensitive to searching keywords than foreign investors. On the Oslo Stock Exchange, Norway, from January 2, 2012 to January 2, 2017, Kim et al. (2019) did not find evidence of the significant relationship between searching keywords and abnormal stock return. However, the authors concluded that the volume of searching keywords might be related to the trading volume.

2.2 The impact of fintech on bank performance

The term "fintech" might be understood by various widening meanings. Firstly, the common meaning is to indicate the fintech companies, not intermediate financial institutions (Van Loo, 2018; Lee & Shin, 2018). Secondly, fintech is used to indicate the application of disruptive technologies for enhancing the performance of both intermediate financial institutions and non-intermediate financial institutions (Van Loo, 2018; Lee & Shin, 2018; Milian et al., 2019; Thakor, 2020). However, we received the term "fintech" for this research from Google Trends; hence, we feel that both definitions above cover the number of searches for "fintech." Additionally, as is the case in the majority of countries, mobile payment and peer-to-peer lending (P2P) are the main sectors or essential business models of the fintech industry in Vietnam, accounting for around 80-90 per cent of the overall market share (MBSecurities, 2018; Son et al., 2019). Therefore, we consider that the volume of searching terms "fintech," "mobile payment," and "peer-to-peer lendings" strongly relates to the development of fintech.

Depending on the strategy of fintech, the available publications reveal diverse outcomes of the influence of fintech on bank performance. Since the global financial crisis 2008-2009, the effect of fintech on the incumbents in the banking sector has been termed "two sides of the coin." The qualitative research by Lee and Shin (2018), Goldstein et al. (2019), and Milian et al. (2019) showed that the emergence of fintech would cut the operating cost, boost performance, and raise the efficiency of the bank. However, it is also a danger to the growth of the banks.

Regarding the quantitative research, the estimated findings concerning the interaction between fintech and banks are likewise diverse. Based on crawler technology and word frequency analysis, the fintech index of 60 banks in China from 2008 to 2017 was produced; Cheng and Qu (2020) found that there is a negative association between bank fintech index and bank credit risk. The increased deployment of disruptive technologies minimizes credit risk, raises bank profitability, and boosts bank performance. Wang et al. (2021) employed media's attention and factor analysis to assess fintech development in China. The authors studied that in the period 2011-2018, the link between fintech and bank risk-taking is U-shaped; firstly, the development of fintech lowered bank risk-taking, and subsequently, the excess of fintech growth raises bank risk-taking. In an investigation of the influence of fintech on the performance of 41 banks from 1998 to 2017 in Indonesia, Phan et al. (2020) assessed the fintech variable as the increase in the number of fintech enterprises. The data indicated that there is a detrimental influence of fintech expansion on bank performance.

Consequently, the impact of fintech on the bank is not clear; it might be positive or negative. This relationship concern is the motive for conducting the study to answer the question, "In developing countries such as Vietnam, how does fintech influence the bank?".

3. Data and Measurement

To address the study topic, we are gathering time series data on fintech-related terms and the return of Vietcombank and Sacombank in Vietnam from Google Trends and Vietstock between 2016w1 and 2021w2 (January 2, 2016 - March 13, 2021). This period was selected since, as of January 2016, Google Trends' mechanism for capturing Google Search Volume was modified in comparison to the previous period. Additionally, according to MBSecurities (2018), fintech has gained traction in Vietnam since 2016.

3.1 Fintech-related keywords

As mentioned above, the fintech-related keywords consist of "fintech," "financial technology," "mobile payment," and "peer-to-peer lendings." These keywords are also consistent with the findings in the fintech research field by Milian et al. (2019) and Alt et al. (2018). Besides that, these keywords are translated into Vietnamese for extracting from Google Trends. The Vietnamese form of these keywords is "Công nghệ tài chính" (translated from "fintech" and "financial technology"), "Thanh toán di động" (translated from "mobile payment"), and "Cho vay ngang hàng" (translated from "peer-to-peer lendings").

The volume of Google searches is determined by the frequency with which users collect terms. Google Trends is a tool for tracking Google Search Volume, a measure of "keyword" frequency on a scale of 0 to 100, referred to as the Google Searching Value Index (GSVI). Since the GSVI value is time-dependent, Kim et al. (2019), Huynh (2019), and Bijl et al. (2016) advocated using the Average Google Search Value Index (AGSVI) to perform the research. Based on Kim et al. (2019), Huynh (2019), and Bijl et al. (2016), in this study, the modified equation for AGSVI at week t with a standard deviation of GSVI for the past 52 weeks $\sigma_{GSVI,t,}$ as below:

$$AGSVI_t = \frac{GSVI_t - \frac{1}{52}\sum_{i=1}^{52} GSVI_{t-i}}{\sigma_{GSVI,t}} \quad (1)$$

In this study, the combination of $AGSVI_t^B$ (denote: B are the specific keywords), Fintech trend refers to the data taken from Google Trends. There are seven specific keywords, namely “fintech” (Fin), “financial technology” (FinT), and “Công nghệ tài chính” (FinTV), “mobile payment” (MoPa), “Thanh toán di động” (MoPaTV), “peer-to-peer lendings” (P2P), and “Cho vay ngang hàng” (P2PTV).

3.2 Bank returns

We collect the closing price of Vietcombank (code: VCB) and Sacombank (code: STB) at the last trading date of the week. If the last trading date is a day-off because of holidays, the previous date is chosen as an alternative. The data of stocks are the same and publicly on all statistical security organizations. In this study, we choose Vietstock for collecting data.

Based on Kiymaz and Berument (2003), the individual bank return is calculated as below:

$$r_t = log(P_t) - log(P_{t-1}) = log\frac{P_t}{P_{t-1}} \quad (2)$$

Where, r_t is the return of bank at the end of week t; P_t and P_{t-1} are the closing prices of the bank stock at the end of week t and t-1, respectively.

According to equation (2), the return of Vietcombank (RVCB) and return of Sacombank (RSTB) are computed.

4. Data Analysis Process and Results

To clarify the influence of fintech-related keywords on the return of Vietcombank and Sacombank, the data analysis process and results are followed as below:

4.1 Descriptive statistics

For getting insight into the feature of data, the descriptive statistical variables are shown in Table 1.

As shown in Table 1, the mean of RVCB is more than that of RSTB over time, while the standard deviation of RVCB is less than that of RSTB; this suggests that during the period, the bank stock of VCB generated a better rate of return with fewer fluctuations than STB. The means of Fin, FinT, and FinTV indicate that users prefer the term "fintech" over "financial technology" and "công nghệ tài chính" when searching on Google; and because the mean of FinTV is negative, we argue that the term "công nghệ tài chính" is irrelevant and should be replaced by the English terms "fintech" and "financial technology." Similarly, the English word "mobile payment" is preferable to "Thanh toán di động." The search terms "peer-to-peer lendings" and "cho vay ngang hàng" had the same number of results. However, the word "fintech" is a very popular search term.

Table 1 : Descriptive statistics

Variable	Explanation	Obs.	Mean	S.D.	Min	Max
RVCB	The return of Vietcombank and Sacombank, respectively	272	.00130	.01919	-.13245	.05690
RSTB		272	.00079	.02118	-.07688	.06012
Fin	AGSVI of the keyword “fintech,” “financial technology,” “công nghệ tài chính,” “mobile payment,” “Thanh toán di động,” “peer-to-peer lendings,” and “cho vay ngang hàng,” respectively	272	.27721	1.23663	-2.07608	9.5706
FinT		272	.04155	1.13813	-.73544	7.07243
FinTV (*)		272	-.02426	1.01564	-1.18054	6.36984
MoPa		272	.08758	1.10203	-1.39235	4.58743
MoPaTV (*)		272	.06897	1.11998	-.83873	5.47273
P2P		272	.03447	1.05166	-2.27420	4.72845
P2PTV (*)		272	.03822	1.04524	-.58953	7.07243

Source: The Authors

4.2 Unit root test

The mandatory requirement of a time-series variable is that the variables must be stationary. This study uses the Dickey-Fuller and Phillip-Perron methods for the unit root test (or stationary tests). The null hypothesis is that the variable (or the series) has a unit root. If the variable is not stationary at the level, the first difference of variables will be an alternative for testing.

Table 2 shows a consistency between the estimation results of the Dickey-Fuller test and the Phillips-Perron test. All null hypotheses are rejected at the 1% confidence level, which means all variables are stationary at the first level. The original variables are eligible for use in the following

4.3 Optimal lag selection

Next, based on Lütkepohl (2005), Pfaff (2008), and Ivanov and Killian (2001), the test of lag-order selection is conducted. The estimation statistics consist of the Akaike's Information Criterion (AIC), the Hannan and Quinn Information Criterion (HQ), the Schwarz's Bayesian Information Criterion (SC), and the Prediction Error (FPE), which are used for selecting the optimal lag. The estimation results are given in Table 3.

Table 2: Unit root test

Variable	Dickey-Fuller test		Phillips-Perron test	
	t-statistics	Null hypothesis	t-statistics	Null hypothesis
RVCB	-14.708***	Reject	-14.651***	Reject
RSTB	-16.126***	Reject	-16.128***	Reject
Fin	-15.625***	Reject	-15.831***	Reject
FinT	-17.856***	Reject	-17.823***	Reject
FinTV	-9.439***	Reject	-9.396***	Reject
MoPa	-15.809***	Reject	-15.929***	Reject
MoPaTV	-15.247***	Reject	-15.363***	Reject
P2P	-15.469***	Reject	-15.512***	Reject
P2PTV	-14.716***	Reject	-14.662***	Reject

*Note: *** means significant at 1% level*
Source: The Authors

Table 3: The lag-order selection

Lag	RVCB				RSTB			
	FPE	AIC	HQIC	SBIC	FPE	AIC	HQIC	SBIC
0	.001033	15.8279	15.871*	15.9351*	.001186	15.9659	16.0089*	16.0731*
1	.000986*	15.7806*	16.1681	16.7453	.001149*	15.9342*	16.3217	16.899
2	.001184	15.9624	16.6943	17.7847	.00138	16.1157	16.8476	17.938
3	.001508	16.2019	17.2783	18.8818	.001742	16.3461	17.4224	19.0259
4	.001915	16.4349	17.8557	19.9723	.0022	16.5736	17.9944	20.111

*Note: * is the suggestion of lag-order selection*
Source: The Authors

Table 4: The estimation results of the cointegration test

Lag	RVCB				RSTB			
	LL	Eigenvalue	Trace Statistic	5% critical value	LL	Eigenvalue	Trace Statistic	5% critical value
0	-2731.7919		1326.4645	156.00	-2762.4439		1339.8161	156.00
1	-2611.69	0.58782	1086.2767	124.24	-2643.5508	0.58415	1102.0299	124.24
2	-2502.0882	0.55467	867.0570	94.15	-2538.0126	0.54108	890.9535	94.15
3	-2410.3668	0.49182	683.6142	68.52	-2439.6837	0.51600	694.2958	68.52
4	-2325.591	0.46509	514.0627	47.21	-2353.299	0.47140	521.5264	47.21
5	-2248.5401	0.43371	359.9608	29.68	-2271.8148	0.45193	358.5579	29.68

Source: The Authors

According to Ivanov and Killian (2001) and Huynh (2019), the AIC statistic is a priority for choosing optimal lag for this data. Therefore, the optimal lag of one (1) is fitted for the data.

4.4 Cointegration test

Following Lütkepohl (2005) and Johansen (1988), we estimate the cointegrating rank statistics using the vector error-correction model (VECM) with a latency of one.

Table 4 indicates that there is no cointegrating relationship between fintech-related keywords and bank return. The pair of variables do not persist in the long term. Therefore, the VAR estimation is used to investigate the influence of fintech-related keywords on the return of Vietcombank and Sacombank.

4.5 Granger causality analysis

Next, the VAR Granger causality analysis is conducted to return Vietcombank and Sacombank to clarify the fintech-related keywords that cause a return change. The estimation results are presented in Table 5. It shows no fintech-related keywords, which have strong evidence to cause the return of Vietcombank and Sacombank in the sample period. However, we explore that the participants seem not to search only one keyword. There is strong evidence of looking for fintech and the segments of fintech. For example, the pairs of keywords "peer-to-peer lendings" and "financial technology"; "Cho vay ngang hàng" and "financial technology"; and "Thanh toán di động" and "Fintech."

4.6 OLS estimation

Furthermore, we also employ the OLS model for estimating the impact of fintech-related keywords on the return of Vietcombank and Sacombank. The estimation results are presented in Table 6. It gives that model 1 is not significant, which means the keywords and the lag one week of Vietcombank return could not explain the Vietcombank return change. However, model 2 is significant at level 10%, which means the independent variables in the model might explain the change of Sacombank return, namely, the coefficients of the lag one week of Sacombank return has positive significance with the Sacombank return at level 5%; the keyword "financial technology" is negatively significant at level 1%; the keyword "Thanh toán di động" is negatively significant at level 10%, and the keyword "Cho vay ngang hàng" is positively significant at level 10%.

Table 5: Granger causality for variables

Variable	RVCB	Fin	FinT	FinTV	MoPaTV	MoPa	P2P	P2PTV	All
RVCB	-	1.274	1.1136	.27125	.01547	.01823	.96251	.70715	3.8759
Fin	2.5232	-	1.8634	.06009	.01157	.82022	1.6433	.07727	7.8964
FinT	1.164	.03614	-	.60606	1.1567	.7338	2.1804	.1572	5.9452
FinTV	.56454	1.7199	.04098	-	.70821	.56503	.344	.067	4.0302
MoPaTV	.89736	3.6458*	.94326	.02485	-	.8745	1.8048	.3779	8.3021
MoPa	.59163	.77957	.12493	.20136	.17328	-	1.2004	2.572	6.2251
P2P	.55919	.02805	2.9381*	.01141	.02453	.51353	-	.0053	5.026
P2P TV	1.6289	.36953	3.5786*	1.9031	.10378	.01338	.19272	-	8.9333
Variable	RSTB	Fin	FinT	FinTV	MoPaTV	MoPa	P2P	P2PTV	All
RSTB	-	1.6947	.55113	.20191	2.8959	.08082	.09453	.04834	4.7805
Fin	2.6774	-	3.5425*	.12044	.01397	.61044	1.2142	8.3e-05	8.0537
FinT	.06527	.00448	-	.52761	1.0852	.83326	2.4689	.22987	4.8271
FinTV	.02009	1.5162	.11022	-	.66857	.50755	.27367	.09767	3.4788
MoPaTV	.18151	3.3727*	.8277	.03567	-	.8185	1.9724	.36507	7.5667
MoPa	2.1968	.76997	.27083	.20114	.12017	-	1.2313	2.1053	7.8636
P2P	1.2351	.02011	2.5614	.01338	.04677	.51715	-	.03026	5.7131
P2P TV	.75282	.61121	4.9021**	2.104	.09022	.00087	.09487	-	8.0337

*Note: *, **, and *** are the significant level at 10%, 5%, and 1%, respectively.*
The null hypothesis is that the variable in the row does not Granger cause variable in the column.
Source: The Authors

Table 6: OLS estimation results

Variable	Model 1 (RVCB)		Model 2 (RSTB)	
	Coef.	t-statistic	Coef.	t-statistic
RVCB (t-1)	.072383	1.14	-	-
RSTB (t-1)	-	-	.151305**	2.22
Fin	.0012882	1.20	-.000471	-0.41
Fin (t-1)	.0010236	1.00	.0010363	0.94
FinT	-.0022825**	-2.02	-.0031768***	-2.61
FinT (t-1)	-.0010646	-0.94	-.000502	-0.41
FinTV	.0013635	1.01	.0009993	0.69
FinTV (t-1)	-.0012473	-0.93	-.0011835	-0.82
MoPaTV	-.0006658	-0.62	.0008497	0.74
MoPaTV (t-1)	-.0001917	-0.18	-.0020914*	-1.84
MoPa	-.0007846	-0.72	-.0004639	-0.39
MoPa (t-1)	-.0001118	-0.10	.00071	0.61
P2P	.0012717	1.10	.0007372	0.59
P2P (t-1)	.0007737	0.67	-.0001826	-0.15
P2PTV	.0008757	0.75	.0022208*	1.77
P2PTV (t-1)	-.0011695	-1.01	-.000183	-0.15
Cons	.0007557	0.61	.0003556	0.27
N	271		271	
R-squared	0.0533		0.0853	
Statistics	0.96		1.59*	

*Note: *, **, and *** are the significant level at 10%, 5%, and 1%, respectively*
Source: The Authors

5. Discussion

Based on the estimation results above, we explore some interesting findings.

There is a preference for using fintech-related keywords in English form to replace the same in Vietnamese form. We discuss that it is suitable with the current context of Vietnam, caused by (1) Vietnam being deeply integrated into the international community, and English being more prevalent in daily life, with a preference for use by children and adolescents (Tran & Tanemura, 2020; Bui & Nguyen, 2016); and (2) the term "fintech" is relatively new, with a strong connection to the digital revolution and youth (Tran & Tanemura, 2020; Bui & Nguyen, 2016; Milian et al., 2019; Thakor, 2020). The literature review shows Granger causality between fintech-related keywords, namely the causality of "fintech" and the two largest segments of the fintech business model. We discuss that it can reflect the fintech literacy of the users, who seem to understand the fintech sector and the business models of the fintech. Morgan and Trinh (2020) found evidence of a positive relationship between financial literacy and an individual's awareness and use of fintech products in Vietnam. Moreover, under the rapid development of internet infrastructure in Vietnam, the basics of fintech products (payment/transfer and credit) might easily meet customer needs; thus, it might be critical to enhance customer awareness about fintech.

By the VAR Granger causality approach, there is no evidence of the influence of fintech-related keywords on the return of Vietcombank and Sacombank. However, by the OLS approach, we explore the difference in the impact of fintech-related keywords on the return of state-owned banks and private banks; namely, fintech-related keywords do not influence the return of Vietcombank, but they influence Sacombank return. These reasons might explain it. Firstly, Google Searching Value Index reflects the volume of searching keywords by both investors and normal users; thus, the probability might be in the sample's time scale. The typical users are more inquisitive and interested in fintech than the investors. Secondly, Vietcombank and Sacombank invest in applying disruptive technology, but it is not the critical factor influencing bank performance. In developing countries as Vietnam, the bank can increase profit by expanding the scale or supporting monetary policy (Nguyen et al., 2017). Thirdly, Sacombank is a private bank whose size is smaller than Vietcombank; thus, the former is more agile in adaptation with the context of fintech than the latter. However, Pham et al. (2021) report that information technology investment reduces bank efficiency in Vietnam. We believe this may account for the disparity in the effect of fintech-related terms on the return of Vietcombank and Sacombank.

6. Conclusion

Investigation of the impact of fintech on banks has attracted a vast number of scholars. This study provides a new aspect about the impact of internet users' fintech attention on banks. Based on Google Trends, the volume of fintech-related keywords was extracted for the study. In the case study of Vietcombank and Sacombank in Vietnam, the research concern "Do fintech-related keywords on searching Google influence bank return?" is conducted to answer the question. Firstly, by the VAR Granger causality approach, the fintech-related keywords do not influence the return of Vietcombank and Sacombank. Secondly, the OLS approach has no evidence of the impact of fintech-related keywords on Vietcombank return. However, the impact of "Cho vay ngang hàng" is significantly positive, and of "financial technology" and lag one week of "Thanh toán di đÙng" are significant negative with the return of Sacombank. Additionally, we explore the preference of using fintech-related words in English form for searching on Google and the positive performance about fintech awareness of the internet users.

The study has some limitations. Firstly, the volume of searching keywords might be biased by the number of normal internet users (non-investors). Therefore, to reduce data bias, we propose that the next study limit the bank's information resources. For example, searching the frequency of fintech-related keywords on the bank's annual reports and other related documents. Secondly, Vietcombank and Sacombank might not reflect the whole performance of Vietnamese banks on the stock market. The next study could focus on formulating the banking system's return index instead of investigating individual banks or focusing on investigating the specific kind of bank (eg., private bank, or state-owned bank).

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Board Composition and Performance of Indian Companies: The Moderating Effect of CEO Duality

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Abstract

This study scrutinises the moderating effect of the board leadership structure, i.e., CEO duality, on the relationship between board composition and the financial performance of Indian companies. As many as 213 companies constituted the sample over a period of 16 years ranging from 2001-17. Board composition is comprised of board size, executive directors, independent directors, and grey directors. Firm performance has been measured through Tobin's Q. Panel data regression technique has led to finding a positive effect of board size and grey directors on Q in the case of CEO duality, while board composition has not affected the performance of Indian companies as far as CEO non-duality is concerned. The study has important implications for the policy-makers and regulators as well.

Keywords: *Board composition, CEO duality, Firm performance, Board size, grey directors, independent directors, executive directors, performance factors*

1. Introduction

The role of the board of directors has been recognised several times in solving agency conflicts within the firms and thereby improving their performance. Johnson et al. (1996) studied three prominent roles of the boards, i.e., monitoring role, service role, and resource dependence role. Several other studies have focused on the board's monitoring role in the wake of rising corporate scandals and stock market crashes (Mizruchi, 2004). It has been contended that the board may be unfit to perform its monitoring role due to the consolidation of power by the management and lack of adequate skills and experience (Rose, 2005). Thus, it has been a matter of keen interest for the corporates and academicians to determine whether the board of directors, especially board composition leads to enhanced firm performance.

Various theoretical perspectives dominate the research on board composition and performance effects. Agency theory states that the board of directors is the essential mechanism used to monitor and control the relationship between shareholders and managers (Shleifer & Vishny, 1997). On the contrary, stewardship theory articulates that being the stewards of the company, managers prefer to look at the shareholders' interest rather than their own benefit. So, there is no need to increase the board size and appoint independent directors (Donaldson & Davis, 1991; Davis et al., 1997). Thus, both these theories provide conflicting theoretical arguments.

The empirical literature exploring the impact of board composition on the performance of companies yielded mixed results. The researchers such as Manna et al. (2016) supported agency theory and provided evidence that board composition positively affected the performance of companies. However, the researchers like Kumar and Singh (2013), Yasser et al. (2017), and Hamdan and Al Mubarak (2017) documented an inverse linkage between board composition and the performance of companies and favoured stewardship theory. The others, such as Srivastava (2015), Bhatt and Bhattacharya (2015), Sakawa and Watanabel (2018), and Haldar et al. (2018), did not notice any linkage between the two.

There could be various reasons for these mixed results. One of the reasons was that the institutional environment varied from one country to another (Claessens & Yurtoglu, 2013). Further, some of the previous studies failed to realise that one mechanism might affect another (Adams & Mehran, 2003). In this context, the board leadership structure has been considered as a moderating variable in certain studies. Board leadership structure can be referred to as whether the firm has one person to execute the duties of CEO and chairman as well (i.e., CEO duality), or whether it assigns these positions to different people (i.e., CEO non-duality). The chairman and CEO exercise different powers. The chairman's prime responsibility is to frame the organisation's policies and monitor the company's performance while the CEO manages the operations. Combs et al. (2007) and Wahba (2015) established a moderating impact of board leadership structure, i.e., CEO duality, on the relationship between the proportion of outside directors and a firm's performance. Elsayed (2011) scrutinised whether board leadership structure moderates the impact of board size on companies' performance. These studies suffer from the following deficiencies: (i) These have been conducted in developed economies, i.e., US, Europe and Egypt; (ii) The focus has been on only one aspect of the board composition; (iii) Earlier studies did not delineate the difference between external (grey) affiliate directors and external non-affiliate (independent) directors. However, the present study is a modest attempt to resolve these gaps in the Indian context.

There have been several reasons which motivated the current study. In India, the Securities and Exchange Board of India (SEBI) initiated various reforms to improve the board's role in the performance of Indian companies. In 2017, SEBI appointed Kotak Committee led by Uday Kotak to make suggestions about the board composition. It suggested an increase in the minimum board size with at least 50 per cent of independent directors and separate positions for the chairman and CEO (KPMG, 2018). SEBI accepted these recommendations. Of these recommendations, SEBI's timeline to separate the role of chairman and CEO by 2022 has created panic among the promoters. This contentious issue has gained momentum in the boardroom of many companies. It shows the present level of unpreparedness of the listed entities to comply with it. It can be because most Indian companies are family-based and promoter-driven (Kumar & Singh, 2013). So, it seems complicated to separate the two roles and make changes in their boards' composition. Furthermore, Indian boards are one-tier boards (Ghosh, 2006). Here, both the executive and the non-executive directors perform their duties together in a single organisational layer (Rashid, 2018). Thus, it becomes

imperative to address the various research questions - *Why should Indian companies go for CEO non-duality? What would be the impact of board composition on the performance of companies having CEO duality or CEO non-duality?*

Thus, this study aims to find whether CEO duality has moderated the impact of board composition on the performance of selected Indian companies during the period 2001-17. Board composition includes board size, executive directors and non-executive directors (independent and grey directors). The performance of companies has been measured through Tobin's Q. Out of the total 213 companies, 67 had CEO duality and the remaining 146 companies' non-duality.

The paper contributes significantly in several ways. Firstly, it provides evidence that board composition affects the performance of companies in India. The effect differs across the companies where the post of chairman or CEO is held by the same person or a different person. The study signifies the importance of separating the positions of chairman and CEO. Secondly, this study is different from the previous studies as it has further divided the non-executive directors into independent and non-independent directors. This study aims to point out the critical role of non-executive non-independent (grey) directors in improving a firm's performance. This aspect could not attract the attention of researchers in earlier studies. Thirdly, unlike the previous studies, the current study assesses the long-term impact of board composition on the performance of companies in the Indian context.

2. Literature Review and Hypothesis Development

The linkages between board composition and performance of companies have been of increasing interest in recent years. Like the prior studies, this study has focussed on two main theories, i.e., agency theory and stewardship theory, to explain the above linkages for finding the moderating impact of CEO duality on the above relationship.

2.1 Board Size and Firm Performance

Ahmed et al. (2006) argued that large boards are inefficacious because of less possibility of expressing new ideas and opinions and ineffectiveness in the monitoring process. Further, a large board size also aggravates the communication and coordination problems. It brings delay in the transfer of information and slows down the decision-making process (Jensen, 1993). In this regard, stewardship theory states that managers act as the stewards of the company. So, they do not require a large board size (Donaldson & Davis, 1991). However, it can also be considered that enlarging the board size adds more experience and skilful directors on the board, which further leads to an improvement in monitoring and controlling of the managers. Agency theory supports this idea by arguing that large boards can manage and control the managers better; because a greater number of directors participating in management activities make the board more vigilant and efficient to solve the agency problems.

Empirical evidence on the linkages between board size and performance of companies has been contradictory. In this regard, some authors have determined that board size positively impacts firm performance (Dwivedi & Jain, 2005; Elsayed, 2011; Bhatt & Bhattacharya, 2015; Ntim et al., 2015; Manna et al., 2016; Ganguli & Guha Deb, 2016; Mishra & Kapil, 2018; Ciftci et al., 2019; Shukla et al., 2020). Another set of authors have documented a negative relationship (Kumar & Singh, 2013). However, researchers like Aslam and Haron (2020), Wang et al. (2018) and Garg (2007), among others, have concluded that board size has a non-linear influence on the performance of companies.

The current study assesses that board size has an affirmative influence on the performance of companies. The more the number of directors, the better would be the monitoring and controlling of the managers. Thus, the proposed hypothes is:

H1a: Board size has a positive impact on the performance of companies.

2.2 Executive Directors and Firm Performance

According to the agency theory, decisions taken by the executive directors are likely to be affected by managers who may prefer their own interests and disregard the interests of shareholders. Therefore, executive directors would bring an inverse effect on the performance of companies. On the other hand, stewardship theory states that managers are the stewards of the company, and they prefer to watch the interests of shareholders rather than their own benefit (Donaldson & Davis, 1991). So, instead of appointing independent directors, executive directors would positively impact the performance of companies (Rashid, 2018). Considering this theory, Hermalin and Weisbach (1991) have asserted that the executive directors help the CEOs to maximise the value of the companies by advising

them about the company's daily operations. They have confidential information related to the company and comprehend the requirements of the company in a better way. It leads to better decisions for the company, ultimately driving its performance (Fama & Jensen, 1983).

Researchers such as Kiel and Nicholson (2003), Yammeesri and Kanthi (2010), Srivastava (2015), and Puni and Anlesinya (2020) have concluded that executive directors have an affirmative impact on the performance of companies, while others such as Hermalin and Weisbach (1991), and Manna et al. (2016) have found no effect on the performance.

This study asserts that being the company's insiders, executive directors have complete inside information and better comprehend its requirements. So, they bring an affirmative effect on the performance of the company. Thus, the proposed hypothesis is:

H1b: Executive directors have a positive impact on the performance of companies.

2.3 Board Independence and Firm Performance

Independent directors possess superior knowledge and expertise derived from sitting on several boards (Yeh, 2013). In this regard, agency theory contends that independent directors, being outsiders, can remove the agency problems and monitor the managers effectively as they could easily appropriate the firm's resources (Fama & Jensen, 1983). On the other hand, stewardship theory alleges that managers are the stewards of the company, and they behave in the best interests of their directors. As a result, independent directors bring an inverse impact on the performance of companies because they fail to get confidential information from the executive directors, which restricts them from effectively taking up their monitoring role, and it intensifies the agency conflicts (Brennan, 2006).

The empirical studies have also provided conflicting arguments. The researchers such as Jackling and Johl (2009), O'Connell and Cramer (2010), and Manna et al. (2016), Thenmozhi and Sasidharan (2020), Puni and Anlesinya (2020), and Souther (2021) have obtained positive results, while Sheikh et al. (2013), Yasser et al. (2017), and Hamdan and Al Mubarak (2017) have found inverse results. There were others like Srivastava (2015), Bhatt and Bhattacharya (2015), Sakawa and Watanabel (2018), Haldar et al. (2018), and Rashid (2018), and Fan et al. (2020) who did not find any relationship between board structure and firm performance.

Thus, it is believed that due to a lack of inside information from executive directors, independent directors would not be able to perform their monitoring role effectively. There would be an inverse impact of independent directors on the performance of companies. Hence, the hypothesis has been formulated as hereunder:

H1c: Independent directors have an inverse impact on the performance of companies.

2.4 Grey Directors and Firm Performance

Being outsiders, independent directors may not be able to get complete inside information about the company, due to which they may not be able to perform their monitoring role effectively. The personal ties of grey directors with the company can easily overcome this problem. They can obtain inside information more quickly, which could be used to advise top management (Hsu & Wu, 2014). In this regard, agency theory postulates that grey directors would be in a better position to monitor the management and remove the agency conflicts, thereby improving the performance of the companies.

As seen above, the empirical studies have also presented conflicting arguments. The researchers such as Eluyela (2020) and Hsu and Wu (2014) have derived positive results. Srivastava (2015) and Kumar and Singh (2012) have found altogether different results, while the researchers such as Yammeesri and Herath (2010), Ameer et al. (2010), and Eluyela et al. (2020) have found no relation between grey directors and firm performance.

Thus, this study expects that grey directors can obtain inside information more quickly due to their personal ties with the company, which could be used to advise top management. It would help the grey directors to impact the performance of companies. Hence, the hypothesis can be formulated as hereunder:

H1d: Grey directors have a positive impact on the performance of companies.

2.5 The moderating role of CEO duality

Two prime theoretical perspectives dominate the research on CEO duality and performance relationship- agency theory and stewardship theory. Agency theorists' favour CEO non-duality, i.e., the posts of chairman and CEO should not be held by the same person. The board's role is to

monitor the managers and safeguard the shareholders' interests. Combining the two positions would give more power to the CEO. He may give priority to his own goals instead of meeting the expectations of the stakeholders. This would exacerbate agency problems by creating a conflict of interest between the CEO and stakeholders (Fama & Jensen, 1983; Jensen, 1993). In such a scenario, the board can no longer efficiently monitor and control decisions. According to Rubino et al. (2017), self-interested and risk-averse CEOs will engage in self-serving acts at the expense of shareholders when the opportunity arises. CEO duality may also result in increasing information asymmetry between insiders and outsiders, as well as a significant rise in the existence of the agency problem (Hsu & Chen, 2019). Additionally, in a weak and politicised organisational structure, the CEO may abuse his or her dual power by appointing a closely related person as a director who is more likely to follow the CEO's orders. This suggests that CEO duality interferes with the board's ability to act as a monitor. As a result, the efficiency of organisational operations, such as monitoring tasks carried out by chosen boards, is reduced, resulting in resource waste (Mubeen et al., 2020). It is also argued that more powerful CEOs are overconfident in the outcomes of their actions and make financial decisions without consulting specialist experts. Due to judgmental errors, these judgments can become costly, making it difficult to attain a firm's targeted performance (Mubeen et al., 2020). These arguments suggest a negative relationship between CEO duality and firm performance. Therefore, separating the two positions improves the transparency and accountability of business decisions, which boosts shareholder confidence and, as a result, firm performance.

In contrast to it, stewardship theory favours CEO duality. This theory argues that managers being the stewards of the company, can improve the firm performance when they simultaneously hold the position of the chairman of the board since the agency cost is reduced. For instance, CEO duality would facilitate the transfer of information cost between managers and the board. Further, the CEO would get complete authority to implement strategies and promote better communication with the board (Donaldson & Davis, 1991). A unified command may help firms avoid confusion and ambiguity from multiple authorities (Finkelstein & D'aveni, 1994). Due to the CEO's awareness of the firm's strategic policies and issues, CEO duality can boost organisational competency and shareholder value from a corporate leadership perspective. CEOs, for example, concentrate on business operations, while the chairman oversees the board's decision-making process. As a result of combining these roles, an experienced CEO can also serve as a sounding board chair and a significant corporate asset (Mubeen et al., 2020). Many studies suggest that combining the CEO and chairman roles in a single person allows companies to adapt more swiftly to market conditions and, as a result, to execute strategic decision processes more efficiently. These arguments based on the stewardship theory suggest a positive association between CEO duality and firm performance.

In companies with CEO duality, due to the enhanced power of the CEO, executive directors may join hands with the CEO to defend their position and maximise their rewards. Thus, the executive directors may not have any positive effect on the performance of companies (Combs et al., 2007). The CEO will also control the flow of information, which will create information asymmetry between the executive and independent directors. This would reduce the effectiveness of independent directors and hamper their monitoring role (Finkelstein & D' aveni, 1994; Rhoades et al., 2001), ultimately bringing an inverse impact on the companies' performance (Wahba, 2015). Few researchers have highlighted the critical role of grey directors in the company. The personal ties of the grey directors with the company would enable them to obtain inside information more quickly, and this information could be used to advise the top management (Hsu & Wu, 2014). So, these directors would positively affect the performance of the companies with CEO duality. It implies that the benefits of increasing board size by adding more grey directors rather than independent directors are expected to outweigh its costs (Jensen, 1993). Thus, the board size will positively impact the firm performance.

In companies with CEO non-duality, separating the CEO and chairman positions imposes a sufficient constraint on the CEO's decisions, which weakens the CEO's power and domination (Rashid, 2013; Dalton & Dalton, 2011). The chairman's dominance in the organisation may force the CEO to interact with non-executive directors (Wahba, 2015). It may help non-executive directors to perform their monitoring role effectively. Moreover, CEO non-duality lowers agency costs and reduces managerial entrenchment. It also boosts efficiency in decision-making because of more discussions happening within the board. These benefits outweigh the costs associated with having large boards.

Therefore, a positive association is expected between board size and corporate performance (Elsayed, 2011).

On the basis of the above arguments, the following hypotheses have been formulated:

H2a: The positive effect of board size on firm performance is greater for companies with CEO duality than those with CEO non-duality.

H2b: The positive effect of executive directors on firm performance is greater for companies with CEO duality than those with CEO non-duality.

H2c: The inverse effect of independent directors on firm performance is greater for companies with CEO duality than those with CEO non-duality.

H2d: The positive effect of grey directors on firm performance is greater for companies with CEO duality than those with CEO non-duality.

3. Research Methods

3.1 Data and Sources

The researchers such as Jackling and Johl (2009), Bhatt and Bhattacharya (2015), and Manna et al. (2016) have focused on small sample of companies. However, this study has considered a larger sample, i.e., the BSE S&P 500 Index, as it represents 96 % of the total market capitalisation and covers almost all the sectors of the economy over the period April 2001 to March 2017. The sample was taken in 2001 because clause 49 of the Listing Agreement became operational in this year. The companies highlighted in Table 1 were excluded from the purview of this study. The banks and financial companies were excluded due to the influence of different regulatory factors on their governance (Jackling & Johl, 2009; Mishra & Kapil, 2018), government companies due to their governance practices and social obligations (Ganguli & Guha Deb, 2016); oil companies for their functioning in monopolistic markets where government fixed the prices (Dwivedi & Jain, 2005); companies not listed during the entire period (Garg, 2007); companies with missing values because their annual reports were not available (Kumar & Singh, 2012). Thus, the final sample was constituted of 213 companies. The data was drawn from the Bloomberg database, Prowess database, and the annual reports of companies. Stata 13 was used to calculate the results.

3.2 Variables

3.2.1 Dependent Variable: The researchers such as Dwivedi and Jain (2005), Jackling and Johl (2009), Kumar and Singh (2013), and Manna et al. (2016) have used market-based measures, i.e., Tobin's Q as an instrument to measure the firm's performance. The formula for calculating Tobin's Q is Market capitalisation + total debts divided by total assets. It exhibits the present value of an expected future income

Table 1: Company Selection Criteria

Criteria of sample selection	Number of companies
S&P 500 Index companies	500
Less: Banks	(34)
Financial companies	(44)
Oil companies	(12)
Government companies	(16)
Companies not listed for the entire period	(165)
Companies with missing values due to non -availability of annual reports	(16)
Final Usable Sample	213
Total company year observation (213×16)	3408

Source: Author's Compilation

generated from investment in the assets by the shareholders (Short & Keasey, 1999).

3.2.2 Independent Variables: Board composition has been considered as an independent variable. It is comprised of:

Board Size: The board size depicts the aggregate of directors on the board.

Executive Directors: The executive directors are calculated as the proportion of executive directors. They are the full-time employees of a company and remain involved in their daily operations.

Independent Directors: The independent directors have been defined as per the Companies Act, 2013. They are measured as the proportion of independent directors.

Grey Directors: The grey directors represent their proportion on the board. These directors are neither fully independent nor are they fully executive directors.

3.2.3 Control Variables: The study has also utilised four control variables which include: Firm size gauged via natural logarithm of the book value of total assets (Srivastava, 2015; Bhatt & Bhattacharya, 2015; Mishra & Kapil, 2018); Firm age quantified as the log of the current year minus year of incorporation (Jackling & Johl, 2009; Kumar & Singh, 2012); Leverage measured as the total outside liabilities divided by the total assets (Kumar & Singh, 2012; Mishra & Kapil, 2018; Srivastava, 2015); and Sales growth computed as a ratio of the current year sales minus prior year sales over the previous year sales (Kumar & Singh, 2012).

3.3 Empirical Model and Estimation Technique

The relationship between board composition and the performance of Indian companies with CEO duality as a moderating variable has been analysed through panel data regression. Panel data is the only method for dealing with both cross-sectional data and time-series data. It consists of pooled OLS, fixed effect as well as a random effect model. Hausman test helps to select between the fixed effect and the random effect model (Baltagi, 2008; Greene, 2003), which accepts a fixed-effect model. Further, the two problems that may affect OLS Regression results are heteroskedasticity and serial correlation (Gujarati & Porter, 2003). If these problems persist in the data, then the regression coefficients' standard errors will not be accurate (Gujarati & Porter, 2003). The study uses a white heteroskedasticity test and the Breusch-Godfrey Serial Correlation LM Test. The results of the white heteroskedasticity test reject the null hypothesis ($\chi2 = 27$; p=0.000). The Breusch-Godfrey Serial Correlation LM Test results also reject the null hypothesis ($\chi2 = 2$; p=0.000). It indicates a prevalence of heteroskedasticity and serial correlation among the variables. Therefore, the study uses the fixed effect model with generalised least squares. The model of the study is:

$$Qit = \alpha0+\beta1\ BS + \beta2PED + \beta3\ PID + \beta4\ PGD + \beta5\ FS + \beta6\ FA + \beta7\ LEV + \beta8\ SG + \omega it$$

Qit= Tobin's Q; $\alpha0$ = Constant term; BS= Board size; PED= Proportion of executive directors; PID= Proportion of independent directors; PGD= Proportion of grey directors; FS= Firm size; FA= Firm age; LEV= Leverage; SG= Sales Growth are the control variables; ωit= Composite error term.

Furthermore, this study applies the moderating variable of CEO duality. The companies with CEO duality have been separated from those companies having CEO non- duality. Out of the total sample of 213 companies, 67 companies have CEO duality, and the remaining 146 companies have CEO non-duality. A separate panel data regression has been run on both the samples to know whether the board composition affects their performance differently.

4. Findings and Discussion

4.1 Descriptive Statistics

Table 2 encompasses the results of descriptive statistics for all the variables used in the study. The mean (median) of Tobin's Q(Q) is 2.30 (1.39). The average board size of all the companies is 9.65. The average proportion of executive directors is 0.27. It means that the executive directors are less than half of the entire board. There are no executive directors (PED) in some of the companies, while others have boards with all executive directors. The mean (median) value of the independent directors (PID) is 0.50 (0.50). The minimum and maximum values of PID are 0 and 1 respectively. It also indicates that, on average, independent directors are half of the total board size. It means that Indian boards are represented by a majority of independent directors. Like executive directors, grey directors (PGD) are also less than half of the entire board as its mean is 0.23, and the median value is 0.20.

Table 2: Results of descriptive statistics

	Mean	Median	Maximum	Minimum	Std. Dev.
Q	2.30	1.39	47.42	0.09	2.75
BS	9.65	10.00	21.00	3.00	2.56
PED	0.27	0.30	1.00	0.00	0.14
PID	0.50	0.50	1.00	0.00	0.17
PGD	0.23	0.20	1.00	0.00	0.19
FS *	9.83	9.80	14.82	3.30	1.54
FA*	3.60	3.58	5.04	0.69	0.62
LEV	3.98	2.50	132.03	0.00	5.48
SG	0.20	0.14	9.50	-1.00	0.42
Observations	3408	3408	3408	3408	3408

*Source: Author's compilation; Note: - * denotes natural log*

4.2 Pearson Correlation

Table 3 exhibits the results of the Pearson correlation matrix. The correlation coefficients range from -0.695 (between independent directors and grey directors) to 0.325 (between board size and total assets) among all the variables. To further detect multicollinearity among the variables, the VIF test has been employed; and the results are presented in Table 4. It is evident that the VIF values are above 10 in the case of independent directors and grey directors, i.e., 13.67 and 16.64, respectively. There is a multicollinearity problem between these two variables. It can be avoided if we use them interchangeably in the model (Mishra & Kapil, 2018).

Table 3: Pearson Correlation Matrix

	BS	PED	PID	PGD	Q	FS	FA	LEV	SG
BS	1								
PED	-.015	1							
PID	-.012	-.257**	1						
PGD	.020	-.509**	-.695**	1					
Q	-.003	-.031	-.019	.038*	1				
FS	.325**	-.074**	.139**	-.068**	.005	1			
FA	.194**	-.094**	.065**	.012	.113**	.296**	1		
LEV	-.059**	-.039*	-.010	.038*	.017	.051**	-.097**	1	
SG	-.035*	.023	-.029	.007	-.027	-.065**	-.142**	.009	1

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*
Source: Author's compilation

Table 4: Results of VIF

Variable Name	BS	PED	PID	PGD	FS	FA	LEV	SG
VIF values	1.15	9.43	13.67	16.64	1.23	1.15	1.02	1.02

Source: Author's Compilation

4.3 Multivariate Analysis

Table 5 presents the results of the fixed-effect GLS model with Q. Models 1 and 2 portray the influence of board composition on the performance of firms under study.

Both these models show that the estimated coefficient of "Board Size" is positive and statistically significant (Model 1- β=0.85; $p < 0.05$; Model 2- β=0.86; $p < 0.05$), confirming that the financial performance of Indian companies is based on their board size. This result is consistent with the one produced by Mishra and Kapil (2018), Bhatt and Bhattacharya (2015), and Manna et al. (2016). Thus, the hypothesis H1a stands accepted. The result reflects that the more the number of board members, the better would be the monitoring and controlling of the managers, which improves the performance of companies. This positive effect increases and remains significant in the case of companies having CEO duality (Model 3- β =0.17; $p < 0.01$; Model 4- β =0.17; $p < 0.01$), while it reduces in companies with CEO non-duality (Model 5-β =0.43; Model 6- β =0.46). Thus, the hypothesis H2a stands accepted. The finding is supported by the fact that to have a check over the CEO's enhanced power, there is a need to appoint additional directors on the board with varied skills and experience that would lead to better monitoring and controlling of the managers, thereby improving the company's performance.

As per the results of Model 1 and 2 shown in Table 5, the estimated coefficients appearing against "Executive Directors" have reflected a positive and statistically insignificant effect on the performance of Indian companies (Model 1-β=0.15). Thus, the results do not support hypothesis H1b. Further, according to the results of Models 3 and 4 presented in Table 5, in the case of companies having CEO duality, this positive effect has increased but remained statistically insignificant (Model 3-β = 1.73; Model 4- β = 0.1). However, in the case of companies having CEO non-duality, the positive effect had reduced, and it became negative, but remained statistically insignificant (Model 5-β =-0.565; Model 6- β =-0.91). These results do not support the hypothesis H2b. This finding is supported by the fact that in the companies with CEO duality, due to CEO's enormous power, executive directors are likely to support him even in wrong decisions to derive undue benefits for them. Thus, an increase in the number of executive directors may not positively affect the performance of companies (Combs et al., 2007). In the case of companies with CEO non-duality, the CEO cannot dominate the company's affairs, and the chairman gets more power. It leads to lowering the agency cost and making better decisions. Thus, a greater number of executive directors on the board do not ensure better performance of the company.

Regarding "Independent Directors", as per the results of Models 1 and 2 as shown in Table 5, the estimated coefficients have exhibited an inverse and significant effect on the performance of companies under study (β =-0.65; $p < 0.10$), stating that Independent Directors adversely affect the performance of companies. Thus, the hypothesis H1c stands accepted. The results are consistent with those produced by Haldar et al. (2018). It may have been due to a lack of inside information from executive directors that independent directors would not perform their monitoring role effectively. As per the results of Models 3 and 4 exhibited in Table 5, in the case of companies having CEO duality, the adverse effect has increased and remained statistically significant (β =-1.86; $p < 0.01$). However, in the case of companies with CEO non-duality, the adverse effect has reduced but is statistically insignificant (β =-0.15). Thus, the hypothesis H2c stands accepted. It may have been due to the fact that by acquiring more power, the CEO may appoint those inside board members whose interests coincide with his. So, this is likely to enhance the company's information asymmetry problems which hamper the performance of independent directors.

As far as "Grey Directors" are concerned, the results of models 1 and 2, as shown in Table 5, reflect that the estimated coefficients have established a positive and statistically significant effect (β =0.83; $p < 0.05$), which means that grey directors are instrumental in improving the performance of Indian companies. This finding supports hypothesis H1d. The results are consistent with those of

Yammeesri and Kanthi (2010) and Hsu and Wu (2014). It can be attributed to the reason that due to their personal ties with the company, such directors are able to seek inside information more quickly, which can be used to advise the top management. It positively affects companies' performance. As per the results of models 3 and 4 exhibited in Table 5, the positive effect improves further and remains statistically significant in the companies with CEO duality (β =1.72; p <0.01). However, in the companies with CEO non-duality, the positive effect decreases, but it remains statistically insignificant (β =0.48), which supports hypothesis H4d. Hence, the hypothesis stands accepted. This finding demonstrates that the role of grey directors assumes more significance when the CEO gets greater power. In such a case, these directors, due to their affiliation with the company and inside directors, can easily get the inside information for using it to advise the top management.

Table 5: Results of fixed effect GLS regression model with Q

	All companies		Companies with CEO Duality		Companies without CEO Duality	
	Model1	**Model2**	**Model3**	**Model4**	**Model5**	**Model6**
Constant	-9.48	-8.72	-11.56	-11.56	-7.69	-7.32
	(-4.74)	(-4.43)	(-8.44)	(-5.16)	(-3.21)	(-3.05)
BS	0.085**	0.086**	0.17*	0.17*	0.043	0.046
	(-2.14)	(-2.16)	(-3.74)	(-3.78)	(-0.75)	(-0.82)
PED	0.15	-0.55	1.73	0.1	-0.565	-0.91
	(-0.32)	(-1.16)	(3.31)	(-0.17)	(-0.91)	(-1.45)
PID		-0.65***		-1.86*		-0.15
		(-1.69)		(-2.74)		(-0.33)
PGD	0.83**		1.72*		0.48	
	(-2.44)		(2.79)		(-1.18)	
FS	-0.06	-0.07	0.08	0.078	-0.11	-0.13
	(-0.25)	(-0.28)	(0.56)	(-0.54)	(-0.40)	(-0.40)
FA	3.17*	3.18*	3.38*	3.4*	3.03**	3.04**
	(-2.91)	(-2.91)	(4.36)	(-4.42)	(-2.26)	(-2.26)
SG	0.13**	0.13**	0.23	0.24	0.11	0.11
	(-2.08)	(-2.09)	(1.54)	(-1.59)	(-1.54)	(-1.54)
LEV	-0.024**	-0.024**	-0.01	-0.01	-0.03***	-0.03***
	(-2.12)	(-2.09)	(-1.46)	(-1.44)	(-1.9)	(-1.9)
R-Square						
within	0.064	0.0637	0.124	0.13	0.052	0.051
between	0.009	0.0091	0.0016	0.002	0.019	0.019
overall	0.012	0.012	0.0047	0.005	0.016	0.016

Source: Author's Compilation

*Note: *1% significance; **5% significance; ***10%significance; Figures in parenthesis depicts T statist ics*

5. Conclusion and Implications

This paper analyses how board composition affects the performance of companies. The sample of the study includes 213 Indian companies representing the various sectors of the industry. The study relates to the period 2001-17. Further, the study also explores whether the relationship between board composition and the performance of Indian SOEs is moderated by CEO duality. Tobin's Q has been used as a performance measure, and fixed-effect GLS regression analysis has been conducted to derive the results. The findings have shown that Indian companies have large boards with half of the independent directors and around one-third of executive and grey directors. The study contemplates that board size and grey directors are helpful to improve the performance of Indian companies, whereas independent directors have dwindled the performance of these companies. The role of executive directors does not affect the performance of Indian companies. Such changes in the board composition can improve the monitoring and controlling of the managers and lead to better-quality decisions. The results are consistent with those produced by Yammeesri and Kanthi (2010), Hsu and Wu (2014), Haldar et al. (2018), Mishra and Kapil (2018), and Bhatt and Bhattacharya (2015). Further, it has been observed that various internal mechanisms affect each other. The findings suggest that the board leadership structure moderates the relationship between board composition and firm performance. In companies with CEO duality, the CEO dominates the scene by appointing more directors having varied skills and qualifications along with the grey directors instead of independent and executive directors. On the other hand, in companies with CEO non-duality, the CEO has less power, and the chairman of the board enjoys more powers. There is less managerial entrenchment and better-quality decisions. These benefits are far better than the costs associated with large boards having either executive or non-executive directors (Elsayed, 2011). The posts of chairman and CEO need to be separated as this arrangement can help the companies to save the additional costs involved in changing the board composition. Thus, board composition causes no impact on the performance of companies having CEO non-duality.

The study has certain implications for policy-makers, academicians and regulators. It suggests that companies with CEO duality can improve their performance by appointing more directors having varied skills and experience. This finding is similar to the recommendations made by the Kotak committee. The increase in board size from its existing 50% should be made by including grey directors instead of independent directors. It will help the companies to carry out their functions more effectively and reduce the financial burden of existing directors also (KPMG, 2018). But an increase in the costs associated with a large board size and changing the board composition can be avoided if the companies go for CEO non-duality and follow the recommendations of SEBI. It will promote a sense of professionalism in the company. Thus, the study emphasis an arrangement for the Indian companies to appoint separate persons for the roles of chairman and CEO. Further, the study also suggests that companies with CEO duality appoint grey directors in place of independent directors. The knowledge, external links, and personal ties of grey directors with the company will add to companies' performance. Finally, the study suggests that regulators such as the SEBI make suitable changes in their regulations which will compel executive directors to support independent directors by displaying the actual position of the company.

The study suffers from certain limitations also. Future studies can investigate the liaison between board composition and firm performance by considering an endogeneity between these variables. Secondly, the inclusion of other board characteristics such as tenure, skills, qualifications, and remuneration package can also provide better insights into the impact of board structure on the firm performance. Thirdly, a comparison can be made with the firm's performance before and after the introduction of the revised clause 49 of the Listing Agreement.

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Gender Diversity and Dividend Policy: The Moderating Role of Board Independence

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Abstract

While prior empirical studies have provided rich empirical insights into the study of 'board gender- diversity and dividend dynamics in Nigeria', these studies mostly concentrated on 'the direct effect', this is not even without prejudice to the measurement of dividend policy by quantitative data dividend per share (DPS), dividend payout ratio (DPR) and dividend yield (DY), without consideration to the qualitative dimension (dividend announcement for a given year). While it is a known fact that diversity in the board helps reduce information asymmetry and hence, facilitate an efficient dividend policy. However, this could be better achieved with a corporate board that is well diversified in terms of gender and high board independence. This moderating role of board independence on the effect of board gender diversity on dividend policy is minute if not lacking in the Nigerian context. Amidst these gaps, the study investigated the moderating role of board independence on the relationship between board gender diversity and dividend policy of 19 selected listed companies in the Nigerian Stock Exchange using stratified sampling technique and *ex post facto* research design from 2010 to 2019. The main findings obtained from our regression analysis reveal that board gender diversity moderated by board independence significantly but indirectly influence dividend announcement while board gender diversity, when moderated by board independence, has no significant positive effect on dividend per share. Arising from the findings, we conclude that board gender diversity, when moderated by board independence, does not significantly impact the dividend policy of Nigerian non-financial companies. Implications are that female gender representation in the boardroom when moderated by board independence, significantly reduces dividend payments. We recommend that companies should always review their boardroom composition and ensure women are given proper representation and recognition on the board so as to improve dividend payment decisions.

Keywords: *board gender, dividend policy, logit, probit fixed effect*

1. Introduction

Dividend policy remains one among the prominent topics in the finance literature which have refused to quit the scene of research attention and may not leave soon. Dividend policy is the policy adopted by management in rationing profit between dividend distribution and retention for business growth and expansion. Dividend policy remains one of the difficult and fundamental financing decisions to be made by managers. This is so as managers are often confronted with the problem of rationing earnings between dividend payment and retention for business expansion and growth. The pioneering work of Miller and Modigliani (1961) suggests dividend irrelevant hypothesis in a perfect market condition. However, as markets are characterised by imperfections, dividend policy remains one of the tools for reducing market imperfections, including agency problems (Dhanani, 2005).

There have been hot debates among researchers as to how some board characteristics like board composition, board independency and size influence dividend policy (Adjaoud & Ben-Amar, 2010; Sharma, 2011). However, in this dispensation, there is increasing attention of stakeholders on gender diversity. This is of special relevance as gender equality is among the topmost agenda of Sustainable Development Goals (SDGs). Specifically, it is number five among the 10 SDGs goals to be attained in 2030. The general problem regarding the issue of dividend payment centers on how directors can be persuaded to pay higher dividends amidst their self- natural inclination to retain excess cash (Saeed & Sameer, 2017). They argued further that one possible means of achieving this is through the inclusion of people with different and distinct characteristics, backgrounds, and experiences on the board who may be able to influence the overall board decisions, including those relating to dividends.

In the quest for shareholders interest and coupled with the concern of different regulatory and legislative bodies, there has been an increased clamour over time for greater gender diversity in the recent dispensation. These pressures from shareholders, regulatory and legislative bodies, according to Saeed and Sameer (2017), have thus increased the inclusion of women on the board of directors by companies in developed countries. These developed countries have thus witnessed a growth in the proportion of women to total board size. For instance, UK FTSE 350 and US S&P 500 firms witnessed a growth of 8% and 2.5%, respectively, between 2011 and 2014 in board gender diversity. In the EU, a growth rate of 21.2% was witnessed in 2015 as against the growth rate of 11.9% in 2010. This clamour and the attendant improvement in women representation on the board in these advanced countries has thus made gender diversity one of the most extensive research topics among scholars, particularly in developed economies. Nigeria as a country provides an institutional setup that is clearly different from those of developed countries. However, the diversity of gender on the board has not shown any appreciable improvement despite its rich institutional settings and highly concentrated forms of ownership, which should provide an incentive for quality board structure and hence, higher board gender diversity.

Previous studies have demonstrated that board gender diversity has an effect on dividend policy. However, most of these studies were conducted in developed countries. Though some of the dividend policy theories tested in advanced countries are transferrable to developing countries like Nigeria, institutional differences that surround emerging countries might necessitate developing country-specific studies. For instance, one argument of dividend theory is the dividend irrelevant hypotheses under perfect market condition. The question regarding the applicability of this theory in an environment that is characterised by market imperfections remains an open question requiring empirical attention. To the best of our knowledge, there is no study that has examined the link between board gender diversity and dividend policy moderating for the role of board independence in Nigeria. Most empirical attempts in Nigeria have emphasised board gender diversity and dividend policy (Kajola et al., 2019) without board independence as the moderating variable.

Asymmetric information is expected to be lesser for firms with a greater number of independent directors, as the firms experience extensive monitoring. Hence, we expect there is a higher opportunity for board gender diversity to further reduce asymmetric information for companies with higher board independence. We include an interaction effect between gender diversity and board independence to investigate these hypotheses. Surprisingly, we discover that the indirect effect of gender diversity on dividend announcement increases with board independence. The explanation for this is that increased monitoring which surrounds companies with higher board independence, may reduce agency problems; thus, women directors may be more growth-oriented towards increased firms' value than the announcement of dividends. Also, during a period of losses, board gender diversity, when moderated by board independence, may work against the announcement of dividends. As to the quantum of dividend declared, we

establish a positive but no significant effect of the moderating role of board independence on the relationship between board gender diversity and dividend per share. The explanation for this is that board gender diversity with board independence as moderating variable helps in reducing agency cost of free cash flow and hence favours payment of dividend in a period of positive earnings.

The investigation of the nexus between board gender diversity and dividend payment is premised on the fact that well-diversified boards provide an efficient mechanism for effective board monitoring and reduction in agency costs to shareholders. The dynamism of the boardroom tends to take a new look with more women directors (Chen et al., 2017). For instance, there is a less conformist tendency in female directors compared to their male counterparts and are also considered more vocal than men (Adams et al., 2011; Chen et al., 2017). Gul et al. (2011) also argued for improved quality boardroom discussions of some complex issues and decisions problems as female directors introduce different and often conflicting points of view, which in turn improves the information available to the board for basing decision making.

Therefore, the investigation of gender diversity and dividend policy with board independence as moderating variables in Nigeria meets scholarly attention for a number of reasons. First, awareness as to the role and importance of board gender diversity is still in its infancy; therefore, there is low participation of women on the corporate board of Nigerian firms. Buttressed by this point is the minimum value of 00000 for board gender diversity with a mean value of 0.13, which implies that, on average, there are 13% female directors on the board. This may be considered insufficient to make corporate governance more effective for enhanced performance. Second, given the degree of agency crisis in the Nigerian capital market, there is a need for the investigation of how gender diversity affects dividend policy. This is of significant importance as dividend policy has serious implications on firms' value but managers may opt for sub-optimal investment as against distributing dividends to shareholders so as to prey on the free cash flow. This in turn significantly and negatively affect firms' value as dividend policy signals good performance about a company to the public.

Our study contributes to the existing literature on board gender diversity and dividend policy in a number of ways. First, the issue of gender diversity and corporate governance has not attracted sufficient empirical attention by researchers in the Nigerian context, unlike its other developed country counterparts like the UK and the USA. This empirical neglect may be attributed to the high degree of gender imbalance in the corporate structure of Nigerian firms. A popular line of research in this regard has toed the line of 'corporate governance and firms' financial performance' (Oyedokun, 2019; Oyedokun et al., 2017). Among the few studies conducted in Nigeria, such as those by Kajola et al. (2019), they have examined the direct effect of corporate gender diversity on dividend policy without any moderating proxy. Aside from this, none of these prior studies has considered the quantitative and qualitative aspects of dividend policy in their investigations contemporaneously. Our study, therefore, views dividend policy from the perspective of dividend announcement (a dummy =1 if the firm pays dividends in a given year and 0 otherwise).

Connecting the emerging evidence on the larger focus of women directors on monitoring to the corporate governance role of dividends, we hypothesise other things being equal, that firms with higher women directors have a greater tendency to adopt higher dividend payout policy and higher dividend payments are employed as monitoring tools. We establish significant evidence for our hypothesis for a sample of 19 companies from 2010 to 2019, resulting in 190 firms-year observations. We discover a statistically significant effect of board gender diversity on dividend policy particularly; the negative coefficient of -15.02478 suggests that a unit increase in board gender diversity will translate to an almost 15 units decrease in dividend announcement. As to the moderating effect of board independence, the negative coefficient of 59.60356 implies that a unit increase in board gender diversity will translate to almost 59. 6 unit reduction in dividend announcement.

A methodological problem for our investigation is the possibility that an omitted variable drives the effect of board gender diversity on dividend payouts policy of Nigerian firms, thereby biasing our results. For instance, a highly independent board with high board gender diversity may be motivated to pay higher dividends rendering our findings spurious. We addressed this challenge using board independence to moderate the role of gender diversity towards dividend announcement and payment.

For emerging countries like Nigeria, where there is pervasiveness of agency crisis, and high market imperfections, dividend policy remains one of the instruments of reducing agency crisis, our finding that board gender diversity with board independence as a moderating variable is related with a higher dividend payment might

interest policymakers, managers and stakeholders in the capital market.

To policymakers, the result implies that taking action to enhance women involvement in the board in the Nigerian non-financial firms can enhance firms' access to equity financing and, in turn, boost capital market capitalisation, which will ultimately suggest high economic growth. An important implication of the findings to managers is to consider the inclusion of women on the board as this reduces agency crisis which will, in turn, make the firm to be highly valued and improve access to external financing. It will also assist them in reducing the bankruptcy risk that is associated with debt financing.

This study contributes to gender diversity and dividend policy literature in the Nigerian context by providing new insights through the moderating effect of board independence. The reason for the study is to foresee the probable impact of gender diversity on dividend policy while moderating for the role of board independence. The study, therefore, sought to proffer answers to the following questions: Does gender diversity have an effect on the dividend policy of Nigerian listed firms? To what extent does gender diversity, when moderated by board independence, affect dividend policy? What is the effect of gender diversity when moderated by board independence on dividend policy? The empirical outcome of this study will be beneficial to the capital market operators, the Nigerian stock exchange, managers, investors and other important stakeholders in making vital decisions.

The remaining parts of this study are structured as follows: the next part addresses the issue of the Nigerian financial environment. The literature review and development of hypotheses follow. Next, we address the methodological issues. The empirical results are presented after this. Lastly, we interpret, conclude, and recommend based on the outcomes of the findings.

2. Literature Review and Hypothesis Development

2.1 Theoretical Background

Central to the dividend irrelevance hypothesis of Modigliani and Miller (1961) is the argument against the adoption of an active dividend payment policy by a firm to maximise shareholders wealth. They argued that under perfect market conditions, such as in the absence of tax, shareholders are indifferent between the payment of dividends and capital gains arising from shares appreciation as firms value is independent of dividend payment but rather depends on firms' assets and investments earnings potentials. Contrarily, the dividend supremacy/ relevancy theory by Gordon (1959) argued in favour of payment of dividends in the determination of firms' value.

The agency cost of Jensen and Meckling (1976) argues that board gender diversity is an important component of the corporate board of directors that is useful in reducing agency crisis in an organisation. They emphasise that the inclusion of female directors on the corporate board of directors is likely to reduce agency crisis as women are considered to be less corrupt compared to their male counterparts, less conformist and less prone to making decisions that are associated with high risk. To this extent, the presence of female directors can either play a substitutive or complementary role when it comes to decisions regarding dividend policy. This study is significantly anchored on this theory.

2.2 Empirical Review

Trinh et al. (2020) analysed the effect of the gender diversity of board rooms on dividend payment strategies while moderating for merger deals in 90 listed UK companies from 2006–2016. It was found from the analysis that there is a significant positive direct influence of female gender diversity on dividend payment. The positive effect was, however, found to be insignificant when moderated by merger deals. Almeida et al. (2020) analysed the effect of gender diversity and corporate governance mechanism on the dividend policy of 261 non-financial firms in Brazil from 2010 to 2015. The result shows that women representation in both deliberative and executive bodies has a marginal influence on the dividend policy of Brazilian companies. The presence of females in management bodies significantly drive the probability of distributing a larger proportion of earnings as dividends and hence, an increase in the payout ratio; such tendency is moderated when women are on the board of directors. Mustafa et al. (2020) examined the influence of board-gender diversity and family ownership on dividend announcement in four Asian countries —China, Malaysia, Pakistan, and India using data spanning between 2010 to 2018. The result of the Tobit regression shows that women presence on the board when moderated by family ownership, has a significant negative effect on board dividend announcement. In Sweden, Zhao (2018) examined the influence of board-gender diversity on the dividend policy of 273 listed companies using data spanning from 2011 to 2015. The result obtained from the two way fixed effect implies that there is a significant positive effect of female representation on the board and board independence on the dividend payout ratio.

Eluyela et al. (2019) examined the influence of gender diversity on the dividend policy of 21 selected listed non-financial firms obtaining data that spanned from 2010 to 2017. The result of the random effect regression shows that female directors on the board have no significant effect on dividend payout in Nigeria. Saeed and Sameer (2017) examined the influence of board gender diversity on emerging economies, including India, Russia and China. The result obtained from the analysis shows a significant negative effect of board gender diversity on dividend payment. Al-Amarneh et al. (2017) investigated the nexus between board gender diversity and dividend policy of 13 selected listed Jordanian Banks. Findings point to the existence of a significant positive effect on cash dividend payment. Kajola et al. (2019) in Nigeria analysed the effect of gender diversity on the dividend policy of 19 Nigerian listed consumer goods companies using data spanning from 2010–2016. The finding obtained forms the random effect regression deposit that there is a significant positive influence of gender diversity on the dividend payment. Mustafa and Che-Ahmad (2018) analysed the effect of ownership structure on audit quality of 100 listed firms in Borsa Istanbul (BIST) using data spanning from 2014 to 2015. The finding suggests that ownership structure has a significant influence on audit quality in Indonesia. Muhammad (2018) analysed the link between board gender diversity, ownership concentration and dividend policy of 387 companies for 2014–2016. The result of the generalised least squares shows a positive link between board gender diversity and dividend policy. Benjamin and Otiso (2017) examined the influence of gender and age of directors on the dividend policy of 49 Kenyan firms from 2007 to 2013. Regression results established a significant positive effect of gender diversity on dividend payment.

We, therefore, hypothesise in null forms that:

H0a1: Board gender diversity has no significant effect on dividend policy.

H0a2: Board gender diversity moderated by board independence does not affect dividend policy.

3. Methods and Procedures

3.1 Research design and source of data

This study used an *ex-post facto* research design due to the historical source of data. We sourced data from the annual published financial reports of the sampled banks as obtained from their official websites and fact books of the Nigerian Stock Exchange using data from 2010 to 2019. We then test our hypotheses by regressing the dividend policy on a continuous variable, "board gender diversity", and thereafter moderated for the indirect effect of board independence with a set of control variables.

Model Specification

Equation 1 depicts the general model of our study in terms of its functional relationship.

$$DAN_{it}=\beta0+\beta1GD_{it}+\beta2BI+\beta3ROA+\beta4SIZE_{it}+\beta5tGROWTH+\beta6GEAR+\beta7ETR_{it}+\beta8LIQ_{it}+\beta9TANGIBI_{it}+\beta10+\beta8GGDP+\beta11INFR_{it}+ e_{it}\ldots\ldots\ldots\ldots (1)$$

$$DAN_{it}=\beta0+\beta1GD_{it} +\beta2BI+\beta3GD*BI++\beta4ROA+\beta5SIZE_{it}+\beta6tGROWTH+ \beta7GEAR+\beta8ETR_{it} +\beta9LIQ_{it}+\beta10TANGIBI_{it} + \beta11+\beta8GGDP+\beta12INFR_{it}+ e_{it}\ldots\ldots\ldots(2)$$

$$DPS_{it}=\beta0+\beta1GD_{it} +\beta2BI+\beta3ROA+\beta4SIZE_{it} +\beta5tGROWTH+\beta6GEAR+\beta7ETR_{it} +\beta8LIQ_{it} +\beta9TANGIBI_{it}+\beta10+\beta8GGDP+\beta11INFR_{it}+ e_{it}\ldots\ldots\ldots\ldots (3)$$

$$DPS_{it}=\beta0+\beta1GD_{it} +\beta2BI+\beta3GD*BI++\beta4ROA+\beta5SIZE_{it} +\beta6tGROWTH+\beta7GEAR+\beta8ETR_{it} +\beta9LIQ_{it}+\beta10TANGIBI_{it}+\beta11+\beta8GDPG+\beta12INFR_{it}+ e_{it}\ldots\ldots\ldots\ldots(4)$$

Where,

DAN_{it}-Dividend announcement of firm i in period t

DPS_{it}- Dividend per share of firm i in period t

GD_{it} - Gender diversity of firm i in period t

$BIN*GD_{it}$ - Gender Diversity moderated by Board Independence of firm i in period t

ROA_{it}-Return on asset of firm i in period t

$SIZE_{it}$ -Natural logarithm of total asset

$GROWTH_{it}$= Natural logarithm of sales of firm i in period t

$GEAR_{it}$= Gearing of firm i in period t

ETR_{it}= Effective tax rate of firm i in period t

LIQ_{it}=Liquidity of firm i in period t

$TANGIBI_{it}$= Tangibility of firm i in period t

GDPG =Growth rate in gross domestic product

INFR= Inflation rate

β1….. B13 Coefficient of independent and control variables

3.2 Population, sample, and sampling technique

As of December 31, 2019, the population of the study is the total 114 listed non-financial firms in Nigeria based on the annual reports of the Nigerian Stock Exchange, out of which a sample of 19 was selected through stratified sampling technique and those that presents consistent data for the variables of investigations for the years under investigation. The stratified sampling technique is adopted in an attempt to ensure that all the sectors are represented in our sample.

3.3 Variable Description and Measurement

Dividend policy, which is surrogated by dividend announcement and dividend per share, is the dependent variable of the study.

3.4 Data Estimation Technique

Unlike some prior studies in Nigeria that employed static regression analysis involving (POLS) as an analytical tool, this study adopted panel data methodology with probity, logit, fixed effects least square (FELS) and random effects generalised least squares (REGLS) as estimation techniques. The GMM technique was used because the method, unlike FELS and REGLS, takes into cognisance heterogeneity or individuality that may be present among the selected banks. Hausman (1978) specification test was later conducted to discriminate between the FELS and REGLS techniques. The result of the test (as shown in Table 4) suggests that the fixed effect is the best data analytical technique to be used for drawing inferences.

4. Empirical Results

4.1 Descriptive Statistics

Table 2 shows the descriptive statistics of the variables. The mean of Dividend Announcement (DAN) is 91.6% and ranges from 0 to 1. 0000. The average of Dividend Per Share (DPS) is 3.11 with a corresponding minimum and maximum of 0 and 63.5, respectively. Gender diversity is averaged 13.5% and varies from 0.00 to 0.5. On average, 67.6% of the board size is comprised of non-executive directors with a minimum of 37.5% and a maximum of 92.8%. This confirms that most of the directors on the board are non-executive. Hence, board independence can play a moderating role. ROA has a mean of 10.5% and varies from -0.21 to 1.34. Size has an average of 17.23 and varies from

Table 1: Operationalization of Independent and Control Variables

Variable	Type	Acronym	Measure	Prior Studies
Board Independence	Independent	BIN	Ratio of non-executive directors to total directors	Uwuigbe et al. (2018), Akintayo and Salman (2018)
Board Gender Diversity	Independent	GD	Ratio of female directors to total directors	Osemene Adeyele and Adinnu (2018), Damak (2018)
Firm Age	Control	FAG	Natural log of the age of firm	Kajola, Agbanike and Adelowotan (2016)
Firm Leverage	Control	LEV	Ratio of total debt to total assets	Samad (2014)
Firm Size	Control	FZ	Natural logarithm of total asset	Sanyaolu, Alao and Yunusa (2020)
PPE			Tangible property, plant and Equipment/ Total Asset	
Liquidity	Control	LIQ	Current Assets/Current Liabilities	Kajola, Alao, Sanyaolu and Ojurongbe(2019)

Source: Various Empirical Studies as in Table 1

14.57 to 19.78. Growth opportunity has a mean value of 16.97 and varies from 13.43 to 19.74. Gearing is averaged 10.4% and varies from 0.000 to 57%. As to the effective tax rate, it is averaged 28% and varies from -1.32 to 1.74. Liquidity has a mean of 1.48 with a corresponding minimum of 0.07 and a maximum of 2.48. Tangibility is averaged 35.5% and varies from 0.312 to 0.816.

Table 3 below shows the relationship between the variables of our study. The table shows that none of the variables has a correlation coefficient in excess of 80% as suggested by (Gujarati, 2009). This means that there is no problem with multicollinearity, and hence, the estimation of regression analysis is appropriate.

Table 2: Descriptive statistics

	DAN	DPS	GD	BI	GD* BI	ROA	LSIZE	GROWTH	GEARING	ETR	LIQ	TANGIBI	GDPG	INFR
Mean	0.9157	3.1098	0.1347	0.6758	0.0838	0.1048	17.236	16.971	0.1041	0.2825	1.4786	0.3547	0.0396	0.1180
Median	1.0000	0.7800	0.1111	0.7000	0.0700	0.0610	17.289	16.914	0.0642	0.2959	1.2618	0.3581	0.0355	0.1174
Maximum	1.0000	63.500	0.5000	0.9285	0.4166	1.3474	19.778	19.743	0.5708	1.7395	2.4828	0.8159	0.0954	0.1650
Minimum	0.0000	0.0000	0.0000	0.3750	0.0000	-0.2061	14.568	13.431	0.0000	-1.3196	0.0757	0.3120	-0.0158	0.0800
Std. Dev.	0.2784	7.4029	0.1230	0.1442	0.0807	0.1786	1.3913	1.7853	0.1204	0.2512	1.8378	0.1994	0.0281	0.0275
Skewness	-2.9944	4.9792	0.4681	-0.2236	0.8928	4.7747	-0.2545	-0.1223	1.2139	0.7421	11.092	0.0626	0.0432	0.2671
Kurtosis	9.9669	33.565	2.1723	2.3337	3.7512	31.323	2.2146	1.7711	4.1281	24.695	140.96	2.1238	3.1660	1.9597
Jarque-Bera	668.21	818.11	12.361	5.0977	29.709	699.48.4	6.8242	12.102	56.147	366.05.0	152.137	6.1028	0.2774	10.826
Probability	0.0000	0.0000	0.0020	0.0781	0.0000	0.0000	0.0329	0.0023	0.0000	0.0000	0.0000	0.0472	0.8704	0.0044
Sum	174.00	590.87	25.611	128.40	15.933	19.705	322.36	3139.66	19.576	52.546	276.49	66.340	7.5297	22.437

Source: Researchers' computation (2020) using E-views 9

Table 3: Correlation Model 1

	DAN	GD	BI	BI*GD	ROA	LSIZE	GROWTH	GEARING	ETR	LIQ	TANGIBI	GDPG	INFR
DAN	1.0000												
GD	-0.0177	1.0000											
BI	0.0434	-0.3985	1.0000										
BI*GD	-0.0038	0.9445	-0.1407	1.0000									
ROA	0.1760	0.1752	0.0377	0.2179	1.0000								
LSIZE	0.1298	0.1013	-0.0414	0.1259	-0.1494	1.0000							
LREVENUE	0.1517	0.0728	0.0010	0.1130	-0.0445	0.8528	1.0000						
GEARING	0.0697	-0.1008	0.0006	-0.1261	-0.1935	0.2561	0.2872	1.0000					
ETR	0.0198	-0.0012	-0.0767	-0.0462	-0.2271	-0.0002	0.0566	0.1269	1.0000				
LIQ	0.0730	-0.0695	0.2170	-0.0203	0.1210	-0.2492	-0.3345	-0.3921	-0.0202	1.0000			
TANGIBI	0.1815	0.0991	0.0398	0.0954	-0.1030	0.1092	0.1994	0.1375	-0.0566	-0.1987	1.0000		
GDPG	0.1110	-0.0705	-0.1018	-0.0909	0.2129	-0.1177	-0.0220	-0.1380	-0.0435	0.1274	-0.0063	1.0000	-0.4412
INFR	-0.0246	0.0063	0.0655	0.0264	-0.0218	0.0378	0.0234	-0.0127	-0.0835	0.0201	-0.0462	-0.4412	1.0000

Source: Researchers' computation (2020) using E-views 9

Table 4 provides the Logit and Tobit analyses for the direct effect of board gender diversity on dividend policy of Nigerian listed non-financial firms. The table shows the effect of board gender diversity on dividend announcement. The two models show similar results. First, with regards to our control variables, we establish the most expected findings for profitability, size, growth opportunity and economic growth. The coefficient of size is also significant at a 1% level of significance. The negative coefficient for growth opportunity shows that as firms have more viable growth enhanced opportunities to finance, they tend to pay a lower dividend. Surprisingly, the coefficient of tangibility is significantly positive, implying that highly tangible firms tend to pay a higher dividend. This may be due to the fact that firms that are more tangible may be associated with larger earnings and lower risk of bankruptcy which enables them to pay dividends. Gearing shows a significant positive effect. This is in disagreement with the trade-off theory that firms that are associated with higher leverage have a higher risk of bankruptcy and transaction cost and, hence pay lower dividends. As to tax planning, we found an amazing positive but no significant effect. The positive coefficient may be as a result of the fact that ETR is the proportion of profit before interest and earnings that is paid as tax, so the higher the ETR, the higher the profitability, and, hence, dividend payment. Liquidity has a positive but no significant effect, meaning that liquid firms have more inclination to pay dividends, but this does not drive dividend payments significantly. Board independence, however, has no significant negative effect on dividend payment. This means that as more women are included on the board, it reduces the probability of dividend announcement even though it is not significant. Gender diversity has a significant but negative effect on dividend announcements implying that firms with a high proportion of female directors on the board are associated with a low inclination towards dividend announcement. This finding is in line with that of Mustafa et al. (2020), Saeed and Sameer (2017) and Zhao (2018) but it is in contrast with that of Almeida et al. (2020), Benjamin and Otiso (2017), Chen et al. (2017), Kajola et al. (2019), Muhammad (2018) and Trinh et al. (2020) that reported a significant positive effect of gender diversity on dividend payment.

As to the McFadden R-squared of 56.4%, it shows that the independent and control variables account for roughly 56% changes in dividend payment.

Table 4: Regression Result

Direct effect of gender diversity on dividend policy

	Probity Estimation			Logit		
Regressors	Coeff	z-stat	P-Val	Coeff	z-stat	p-val
C	-21.83181	-3.296714	0.0010	-38.76170	-3.232625	0.0012
GD	-8.319780	-2.931387	0.0034	-15.02478	-2.836843	0.0046
BI	-1.987812	-1.092480	0.2746	-3.392593	-0.950797	0.3417
ROA	22.76646	3.852102	0.0001	39.89924	3.747969	0.0002
LSIZE	1.647064	2.765239	0.0057	2.963478	2.698758	0.0070
GROWTH	-0.526401	-1.623173	0.1046	-0.957181	-1.578368	0.1145
GEARING	4.859959	1.871754	0.0612	8.101800	1.722812	0.0849
ETR	0.096081	0.097103	0.9226	0.063760	0.034490	0.9725
LIQ	0.533002	0.982481	0.3259	0.913708	0.908712	0.3635
TANGIBI	7.655666	3.527926	0.0004	13.63207	3.471456	0.0005
GDPG	7.938360	0.587056	0.5572	12.26265	0.505164	0.6134
INFR	17.91981	1.621941	0.1048	30.44011	1.539030	0.1238
McFadden R-squared	0.564865			0.552088		
LR-stat	55.75952			54.49825		
Prob LR-stat	0.00000			0.000000		
Obs with Dep=0	14			14		
Obs with Dep=1	176			176		

Source: Researchers' computation (2020) using E-views 9

Additional Analysis

In an attempt to test the validity of our estimated model, we estimated the Wald test. The result shows that the model is not significant at 5% and 10%. This means there is no heteroskedasticity. The table is presented below.

Table 5: Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity (DAN)

H0: Constant Variance	
Chi2 (1)	0.1067
Prob > chi2	0.1048

Source: Researchers' computation (2020) using E-views 9

Table 6: Indirect effect of gender diversity on dividend announcement

	Probity Estimation			Logit		
Regressors	Coeff	z-stat	P-Val	Coeff	z-stat	p-val
C	-29.94564	-3.182628	0.0015	-53.56770	-3.105809	0.0019
GD	13.94986	1.089962	0.2757	26.14428	1.129483	0.2587
BI	3.667312	0.981356	0.3264	7.331109	1.066579	0.2862
GD*BI	-32.49010	-1.719065	0.0856	-59.60356	-1.716912	0.0860
ROA	26.77988	3.879572	0.0001	46.86254	3.753262	0.0002
LSIZE	1.747396	2.626498	0.0086	3.133054	2.499775	0.0124
LGROWTH	-0.429066	-1.226074	0.2202	-0.774191	-1.156587	0.2474
GEARING	6.302185	2.052867	0.0401	10.94213	1.950023	0.0512
ETR	-0.292514	-0.228853	0.8190	-0.451772	-0.191378	0.8482
LIQ	0.799195	1.356269	0.1750	1.347971	1.261663	0.2071
TANGIBI	8.106680	3.292666	0.0010	14.18255	3.162490	0.0016
GDPG	4.819744	0.347209	0.7284	6.207187	0.251810	0.8012
INFR	20.39242	1.723695	0.0848	34.20266	1.592004	0.1114
McFadden R-squared	0.600497			0.588611		
LR-stat	59.27681			58.10350		
Prob LR-stat	0.000000			0.000000		
Obs with Dep=0	14			14		
Obs with Dep=1	168			168		

Source: Researchers' computation (2020) using E-views 9

Additional Analysis

In an attempt to test the validity of our estimated model, we estimated the Wald test. The result shows that the model is not significant at 5% and 10%. This means there is no heteroskedasticity. The table is presented below.

Table7:Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity (DAN)

H0: Constant Variance	
Chi2 (1)	0.1133
Prob > chi2	0.1114

Source: Researchers' computation (2020) using E-views 9

Table 6 provides the result of probit and logit regression regarding the effect of board gender diversity and dividend policy of Nigerian non-financial firms under the direct effect. The table shows the effect of board gender diversity and whether dividend is paid or not. The two models show similar results. First, with regards to our control variables, we establish the most expected findings for profitability, size, and economic growth. The coefficient of size is also positive and highly significant, implying that larger firms are associated with high tendency to pay dividends than smaller firms. The positive coefficient of gearing shows that highly geared firms pay higher dividends. This contradicts our *a priori expectation* as highly geared companies may have a low residual profit or even, at times, residual loss, which may make them not able to pay dividends. On the other hand, as agency crisis of free cash flow and information asymmetry are less in highly geared companies as a result of more public monitoring, dividend policy may be effective, which may enhance payment of dividends.

Surprisingly, the coefficient of tangibility is significantly positive, implying that highly tangible firms tend to pay higher dividends. This may be due to the fact that firms that are more tangible may be associated with larger earnings and a low risk of bankruptcy which enables them to pay dividends. Gearing shows a significant positive effect. This disagrees with the trade-off theory that firms that are associated with higher leverage have a higher risk of bankruptcy and transaction cost and hence pay a lower dividend. As to tax planning, we found a negative but no significant effect. The negative coefficient implies that companies with high tax planning pay less dividends. The reason that may be adduced to this is that firms, in an attempt to improve shareholders wealth maximisation, may resort to payment of lower dividends so as to reduce tax on dividends and ploughed back the profit for future for capital gain as capital gain is tax-exempt.

Liquidity has a positive but non-significant effect, meaning that liquid firms have an inclination to pay dividends, but this does not significantly drive dividend payment. Growth opportunity, which is surrogated by sales revenue, shows a negative and insignificant effect. The negative coefficient contradicts our a priori expectation as higher revenue is expected to translate to higher profitability and hence, the inclination towards dividend payment. Board independence, however, has an insignificant positive effect on the inclination to pay dividends. The results relating to the effect of board gender diversity shows positive but no significant effect on dividend payment. This implies that board gender diversity does not significantly drive DPS. This finding is in contrast with that of Almeida et al. (2020), Benjamin and Otiso (2017), Chen et al. (2017), Kajola et al. (2019), Muhammad (2018) and Trinh et al. (2020) that reported a significant positive effect of gender diversity on dividend payment.

As to the moderating effect of board independence on the relationship between board gender diversity and dividend policy, we establish a significant but negative effect. This means that board gender diversity, when moderated by board independence, is significantly linked to a lower tendency of dividend payment. This may mean that the inclusion of more women on the corporate board assists in mitigating agency problems, which in turn reduces dividend payment as an alternative means of mitigating agency crisis. This finding attunes to that of Mustafa et al. (2020), Saeed and Sameer (2017) and Zhao (2018) that reported significant but negative effects, but is in contrast with that of Almeida et al. (2020), Benjamin and Otiso (2017), Chen et al. (2017), Kajola et al. (2019), Muhammad (2018) and Trinh et al. (2020) that reported a significant positive effect of gender diversity on dividend payment.

As to the adjusted R-squared of 59.27681, it shows that the independent and control variables account for roughly 59% changes in dividend payment.

The probability of F-statistics shows the significant joint effect of board gender diversity and the controlled variables on DPS. The Durbin Watson of 1.56 means the absence of autocorrelation since it is in an approximation of 2.

Correlation matrix for board gender diversity and dividend per share

The table below shows the relationship between the variables of our study. The table shows that none of the variables has a correlation coefficient of more than 80% as suggested by (Gujarati, 2009). This means that there is no problem with multicollinearity, and hence, the estimation of regression analysis is appropriate.

Table 8: Correlation Matrix for DPS

	DPS	GD	BI	BI*GD	ROA	LSIZE	GROWTH	GEARING	ETR	LIQ	TANGIBI	GDPG	INFR
DPS	1.0000	0.0744	-0.1339	0.0686	0.1393	0.3527	0.4276	0.1897	-0.0302	-0.2078	0.1104	0.0018	-0.0085
GD	0.0744	1.0000	-0.3985	0.9445	0.1752	0.1013	0.0728	-0.1008	-0.0012	-0.0695	0.0991	-0.0705	0.0063
BI	-0.1339	-0.3985	1.0000	-0.1407	0.0377	-0.0414	0.0010	0.0006	-0.0767	0.2170	0.0398	-0.1018	0.0655
BI*GD	0.0686	0.9445	-0.1407	1.0000	0.2179	0.1259	0.1130	-0.1261	-0.0462	-0.0203	0.0954	-0.0909	0.0264
ROA	0.1393	0.1752	0.0377	0.2179	1.0000	-0.1494	-0.0445	-0.1935	-0.2271	0.1210	-0.1030	0.2129	-0.0218
LSIZE	0.3527	0.1013	-0.0414	0.1259	-0.1494	1.0000	0.8528	0.2561	-0.0002	-0.2492	0.1092	-0.1177	0.0378
GROWTH	0.4276	0.0728	0.0010	0.1130	-0.0445	0.8528	1.0000	0.2872	0.0566	-0.3345	0.1994	-0.0220	0.0234
GEARING	0.1897	-0.1008	0.0006	-0.1261	-0.1935	0.2561	0.2872	1.0000	0.1269	-0.3921	0.1375	-0.1380	-0.0127
ETR	-0.0302	-0.0012	-0.0767	-0.0462	-0.2271	-0.0002	0.0566	0.1269	1.0000	-0.0202	-0.0566	-0.0435	-0.0835
LIQ	-0.2078	-0.0695	0.2170	-0.0203	0.1210	-0.2492	-0.3345	-0.3921	-0.0202	1.0000	-0.1987	0.1274	0.0201
TANGIBI	0.1104	0.0991	0.0398	0.0954	-0.1030	0.1092	0.1994	0.1375	-0.0566	-0.1987	1.0000	-0.0063	-0.0462
GDPG	0.0018	-0.0705	-0.1018	-0.0909	0.2129	-0.1177	-0.0220	-0.1380	-0.0435	0.1274	-0.0063	1.0000	-0.4412
INFR	-0.0085	0.0063	0.0655	0.0264	-0.0218	0.0378	0.0234	-0.0127	-0.0835	0.0201	-0.0462	-0.4412	1.0000

Source: Researchers' computation (2020) using E-views 9

Direct Effect

Table 9: Regression Result

	Pooled OLS Estimation			Fixed Effect			Random Effect		
Regressors	Coeff	t-stat	P-Val	Coeff	t-stat	p-val	Coeff	t-stat	p-val
C	-1.41714	-0.39083	0.6965	-44.8715	-2.69434	0.0079	-1.45734	-0.43139	0.6668
DPS(-1)	1.07222	23.1991	0.0000	0.62707	6.47256	0.0000	1.06996	24.8206	0.0000
GD	-2.67839	-1.40961	0.1607	-5.46894	-1.81193	0.0722	-2.69236	-1.52503	0.1293
BI	-2.67010	-1.61348	0.1087	-0.52161	-0.15264	0.8789	-2.66648	-1.73113	0.0854
ROA	1.504565	1.03868	0.3006	1.56520	0.87323	0.3841	1.49460	1.11409	0.2670
LSIZE	0.08583	0.28357	0.7771	1.57310	1.50246	0.1353	0.08559	0.30225	0.7629
LREVENUE	0.01548	0.06215	0.9505	1.13920	1.43557	0.1534	0.01966	0.08442	0.9328
GEARING	-2.35129	-1.23806	0.2176	-10.0151	-3.65565	0.0004	-2.42298	-1.37333	0.1717
ETR	-0.17891	-0.21370	0.8311	0.22412	0.25809	0.7967	-0.17800	-0.23046	0.8180
LIQ	0.14538	0.35570	0.7226	-0.49476	-0.95540	0.3411	0.13638	0.36007	0.7193
TANGIBI	1.70384	1.50224	0.1351	4.51917	1.84369	0.0674	1.71540	1.61994	0.1073
GDPG	9.73992	0.66868	0.5047	10.8336	0.74971	0.4547	9.70897	0.72379	0.4703
INFR	7.11649	0.63442	0.5267	1.80929	0.16873	0.8663	7.09275	0.68672	0.4933
R-square	0.7408	0.83451			0.8762		0.83042		
Adj.R-square	0.7249	0.821536			0.84877		0.81712		
F-stat	46.607	64.29623			31.8705		62.4397		
Prob F-stat	0.0000	0.000000			0.00000		0.0000		
Durbin Watson			1.478770		1.55854		1.48006		
Hausman Test	39.058876	12	0.0001						

Source: Researchers' computation (2020) using E-views 9

Additional Analysis

In an attempt to test the validity of our estimated model, we estimated the Wald test. The result shows that the model is not significant at 5% and 10%. This means there is no heteroskedasticity. The table is presented below.

Table 10:Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity (DPS)

Chi2 (1)	0.4933
Prob > chi2	0.4923

Source: Researchers' computation (2020) using E-views 9

Indirect effect of board gender diversity and dividend policy

Table 11: Regression Result

	Pooled OLS Estimation			Fixed Effect			Random Effect		
Regressors	Coeff	t-stat	P-Val	Coeff	t-stat	p-val	Coeff	t-stat	p-val
C	-2.67779	-0.66464	0.5073	-44.3335	-2.56467	0.0114	-2.72228	-0.71690	0.4745
DPS(-1)	1.07607	23.0936	0.0000	0.62641	6.43219	0.0000	1.07190	24.3699	0.0000
GD	3.80648	0.41495	0.6788	-7.05589	-0.52870	0.5979	3.59912	0.41836	0.6763
BI	-1.16102	-0.43548	0.6638	-0.81514	-0.19461	0.8460	-1.19987	-0.47989	0.6320
GD*BI	-9.35105	-0.72265	0.4710	2.21835	0.12209	0.9030	-9.08107	-0.74885	0.4551
ROA	1.53749	1.05923	0.2912	1.56839	0.87172	0.3849	1.51699	1.12096	0.2641
LSIZE	0.08547	0.28192	0.7784	1.56455	1.48553	0.1398	0.08520	0.29605	0.7676
LREVENUE	0.02877	0.11503	0.9086	1.12984	1.41203	0.1603	0.03592	0.15144	0.8798
GEARING	-2.55582	-1.32902	0.1858	-10.0049	-3.63693	0.0004	-2.66976	-1.48207	0.1404
ETR	-0.23942	-0.28412	0.7767	0.22570	0.25893	0.7961	-0.23303	-0.29872	0.7656
LIQ	0.12886	0.31431	0.7537	-0.50097	-0.95927	0.3391	0.11554	0.30203	0.7630
TANGIBI	1.58205	1.37759	0.1704	4.56913	1.83209	0.0692	1.60535	1.47808	0.1415
GDPG	10.0703	0.68995	0.4913	10.6477	0.73013	0.4666	10.0229	0.74379	0.4582
INFR	7.20249	0.64105	0.5225	1.74202	0.16165	0.8718	7.16892	0.69136	0.4904
R-square	0.7408	0.83508			0.87628		0.83042	0.82777	
Adj.R-square	0.7249	0.82097			0.84766		0.81712	0.81305	
F-stat	46.607	59.2052			30.61793		62.4397	56.1991	
Prob F-stat	0.0000	0.00000			0.00000		0.0000	0.00000	
Durbin Watson			1.4833 0		1.55889		1.480062	1.48526	
Hausman Test	38.80718	13	0.0002						

Source: Researchers' computation (2020) using E-views 9

Additional Analysis

In an attempt to test the validity of our estimated model, we estimated the Wald test. The result shows that the model is not significant at 5% and 10%. This means there is no heteroskedasticity. The table is presented below.

Table 12:Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity (DPS)

Chi2 (1)	0.4904
Prob > chi2	0.4893

Source: Researchers' computation (2020) using E-views 9

Table 9 provides the result of dynamic GMM between board gender diversity and dividend policy of Nigerian non-financial firms under the direct effect. The table shows the effect of board gender diversity on dividend per share. First, with regards to our control variables, we establish the most consistent results for profitability, size, gearing and economic growth. The coefficient of size is also positive but highly insignificant. The negative coefficient of gearing

shows that firms with higher gearing pay lower dividends. This may be as a result of the fact that highly geared firms are associated with less agency cost and hence, the less role of dividend payment to mitigate agency crisis. However, this is in disagreement with the trade-off theory that firms that are associated with higher leverage have a higher risk of bankruptcy and transaction cost and hence pay lower dividends.

Surprisingly, the coefficient of tangibility is positive and significant, implying that highly tangible firms tend to pay higher dividends. This may be due to the fact that firms that are more tangible may be associated with larger earnings and a low risk of bankruptcy which enables them to pay dividends. As to tax planning, we found a positive but no significant effect. This means that larger companies with high tax planning tend to pay more dividends. This may be so as tax planning will reduce the amount of tax to be paid on profit which will, in turn, increase the amount of distributable earnings. Liquidity has a negative but no significant effect, meaning that liquid firms have more inclination to pay dividends, but this does not drive dividend payment significantly. Growth opportunity, which is surrogated by sales revenue, shows a positive but insignificant effect. The positive coefficient can be due to the fact that higher revenue may suggest higher profitability and hence, higher DPS. Board independence, however, has an insignificant negative effect on dividend payment. As to the adjusted R-squared of 0.84877, it shows that the independent and control variables account for roughly 85% changes in dividend payment. The finding relating to the effect of board gender diversity shows a negative but significant effect on dividend payment. This implies that board gender diversity leads to low DPS. This finding attunes to that of Mustafa et al. (2020), Saeed and Sameer (2017) and Zhao (2018) that reported significant but negative effects. However, it is in contrast with that of Almeida et al. (2020), Benjamin and Otiso (2017), Chen et al. (2017), Kajola et al. (2019), Muhammad (2018) and Trinh et al. (2020) that reported significant but positive effects of gender diversity on dividend payment.

The probability of F-statistics shows the significant joint effect of board gender diversity and the controlled variables on DPS. The Durbin Watson of 1.56 means the absence of autocorrelation since it is an approximation of 2**.**

5. Conclusion

The main aim of this study is to investigate the moderating effect of board independence on the relationship between board gender diversity and dividend policy of Nigerian listed non-financial firms. Nigeria is an emerging economy that is characterised by weak corporate governance practices, a highly concentrated ownership structure, high corporate family ownership, low board gender diversity, high information asymmetry and high agency crisis. Prior studies in developed countries have suggested a significant positive effect of board gender diversity on ownership structure (Trinh et al., 2020 and Zhao, 2018). This finding may not be applicable in emerging economies like Nigeria with different institutional settings from those of developed economies. Moreover, the result of prior studies may not hold in Nigeria, where female representation and participation on the board is still in its infancy. We discover that board gender diversity exerts a significant negative influence on dividend announcement. Under the indirect effect, board gender diversity has a significant negative effect on dividend policy when moderated by board independence. These findings are not consistent with the argument that highly gender-diverse boards are associated with less asymmetry information and hence, high protection of shareholders wealth. As to the quantum of dividend paid, we found a significant negative effect of board gender diversity on dividend per share. As to the moderating effect of board gender diversity, we establish a positive but highly insignificant effect of board gender diversity on dividend per share. Our finding is of significant importance to policymakers, managers, shareholders and other stakeholders in developing countries where gender diversity is important but very low due to high ownership structure, information asymmetry, and higher family form of ownership. Our result suggests that board gender diversity reduces dividend announcement either with the moderating role of board independence or without. As to the second model, we found a significant direct negative effect of board gender diversity on dividend payment while under the moderating role of ownership structure, positive but no significant effect was found. This implies that the moderating role of ownership structure significantly reduces dividend announcement while it increases dividend per share, but the effect was very weak. From a pragmatic perspective, the results suggest that to enhance dividend payment, policymakers may want to improve women participation and representation on the board. From a management perspective, the results indicate that agency crisis can be reduced by having more women on the board of corporate governance. Some related studies have been undertaken in developed economies; for instance, Trinh et al. (2020) have established a significant positive effect of board gender diversity on dividend policy in the UK.

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First Time IFRS Convergence in India: Impact on Key Accounting Measures and Accruals Quality

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Abstract

The European Union's experience of IFRS adoption reveals that it has a significant impact on the key accounting measures and accruals quality. In India, IFRS convergence took place in a phased manner with the implementation of the Indian Accounting Standards (Ind AS) from 1st April 2016. This study examines phase 1 and phase 2 of Ind AS implementation. The firms under both phases are different in terms of size and net worth. The study finds significant differences in the response to the accounting policy changes after Ind AS implementation in both phases. In phase 1, firms are not as responsive to Ind AS changes as the firms in phase 2. The same is reflected in the sub-sample analysis also. However, the study could not find any insights about the impact of Ind AS on accruals quality. The findings have implications for academic researchers, standard setters, analysts, and investors.

Keywords: *Accounting measures, Accruals quality, GAAP, IFRS, Ind AS*

1. Introduction

IFRS stands for International Financial Reporting Standards. These are principle-based accounting standards. Accounting standards outline the accounting treatment of business transactions. It includes recognition, measurement, presentation, and disclosure of transactions. The primary purpose of defining and implementing accounting standards is to promote consistent and understandable accounting practices across all firms and industries. In any country, the accounting standards are the result of the accounting regime that a country follows (Kvaal & Nobes, 2012). The accounting regime can be rule-based or principle-based. In the case of a rule-based accounting regime, the firm must adhere to specific rules outlined for each transaction while preparing financial statements. While in the case of a principle-based accounting regime, there is a scope of different interpretations of the same transactions. The focus is more on the substance of the transaction rather than form. Another defining feature of the principle-based accounting regime is the shift towards fair value accounting.

IFRS aims at harmonising accounting practices across the globe, increasing the comparability of financial statements and providing greater access to global capital markets. IFRS has gained importance due to the globalisation of financial markets. The differences in accounting information across countries lead to difficulty in the comparison of financial statements (Samaha & Khlif, 2016). Moreover, poor quality of financial reporting impedes the ability of a country to attract foreign investors (Saudagaran & Diga, 1997; Gordon et al., 2012).

In the last two decades, many developing countries and all the countries in European Union (EU) adopted IFRS (Samaha & Stapleton, 2008). From the EU experience, it is clear that IFRS adoption/convergence can have cascading effects on the preparation and presentation of financial statements, key accounting measures, and quality of financial reporting (Aubert & Grudnitski, 2011). In India, IFRS convergence was initiated in a phased manner beginning from the financial year 2016-17. According to PwC (2016), the accounting policies relating to deferred taxes, revenue recognition, segment reporting, leases, financial instruments and derivatives, and consolidation will have a significant impact on earnings, net worth, market capitalisation, debt covenants, current and deferred tax position, minimum alternate tax and amount of disclosures after Ind AS implementation.

Ind AS 1 (presentation of financial statements) requires a firm to disclose comparative information for the previous period for all the amounts reported in the current financial statements. The first phase of Ind AS implementation commenced with the financial year 2016-17 for companies with a net worth of Rs. 500 crores or more. The first set of financial statements under Ind AS were prepared for the financial year 2016-17, and comparative information for the financial year 2015-16 was presented. Similarly, the second phase of Ind AS implementation commenced with the financial year 2017-18 for companies with a net worth of Rs 250 crores or more but less than Rs. 500 crores. For this year, the comparative information for the financial year 2016-17 was presented. Thus, for the financial year 2015-16 and 2016-17, the financial statements as per the Indian GAAP and Ind AS both are available. Thus, these are unique financial years to explore the impact of Ind AS on reported accounting numbers and accruals quality. The comparison of reported accounting numbers under two different accounting regimes will help in understanding whether firms have made significant changes in their accounting policies after Ind AS implementation.

With this backdrop, the study aims to understand the effect of Ind AS implementation on key accounting numbers and accruals quality. The remainder of the paper is organised as follows: Section 2 outlines the theoretical background, section 3 discusses the relevant literature, section 4 presents the research methodology, section 5 discusses the results and findings, and section 6 concludes the study.

2. Theoretical Background

In recent years, many developing countries have adopted IFRS or converged their accounting standards with IFRS. There are macroeconomic motives for adopting IFRS or converging with IFRS. These motives can be justified by the economic theory of networks (Katz & Shapiro, 1985) and isomorphism (DiMaggio & Powell, 1991). According to the economic theory of networks, if the trade partners of developing countries or countries within their geographical vicinity adopt IFRS, then they are more likely to adopt IFRS (Ramanna & Sletten, 2009). Isomorphism also justifies the macroeconomic motives to adopt IFRS. Isomorphism is of

three types – coercive, mimetic, and normative. Coercive isomorphism indicates that institutions can force the firm/country for adopting IFRS or converging with IFRS (Judge et al., 2010). Mimetic isomorphism indicates that countries may imitate other countries to adopt IFRS or converge with IFRS (Hassan, 2008). Normative isomorphism indicates that the education level of the country may affect accounting and auditing practices in the country and thus their willingness for IFRS adoption or convergence (Hassan, 2008).

At the micro-level or firm level, agency theory (Jensen & Meckling, 1976), signalling theory (Spence, 1973), and capital need theory (Marston & Shrives, 1996) can justify the adoption of IFRS. According to agency theory, accounting choices and disclosure of financial information are used to reduce agency costs and information asymmetry between insiders and outsiders. IFRS adoption or convergence may result in more disclosure, thus mitigating agency costs and reducing information asymmetry. Signalling theory refers to the use of financial reporting by the insiders to signal their expectations and intentions about the firm. IFRS adoption or convergence may be used to signal the intentions of the firm to disclose more information (Samaha & Khlif, 2016). Capital need theory indicates that disclosures increase the ease by which new capital can be raised. IFRS adoption or convergence indicates the efforts to comply with various disclosure requirements, especially by the firms issuing additional equity and firms competing for scarce resources (Samaha & Khlif, 2016). Li et al. (2021) found that more disaggregated disclosure following IFRS adoption improved market liquidity and decreased information asymmetry.

3. Review of literature

The literature on IFRS focuses on three main streams: 1) compliance and effects at the firm level; 2) economic consequences of IFRS adoption/convergence; 3) cross-country research. Stream one examines firm-level factors as the determinants of compliance with IFRS and the effect of IFRS adoption/convergence on the financial statements of a firm. Stream two examines the impact of the IFRS adoption/convergence on earnings quality, value relevance, cost of capital, and foreign direct investment. Stream three examines the variations in IFRS adoption/convergence and practice due to the differences in the financial, legal, and cultural environment. For this study, the literature examining the effect of IFRS adoption/convergence on the financial statements and earnings quality is relevant.

3.1. Effect on accounting numbers after IFRS adoption

One of the major streams of IFRS literature focuses on the effects of IFRS adoption on the financial statements and reported numbers. Grudnitski and Aubert (2011) examined the differences in the total revenue, net income before extraordinary items, earnings per share, total assets, tangible book value per share, net operating cash flow, and return on assets and accruals quality as per the local GAAP and IFRS in a cross-country setting. They found noticeable differences for tangible book value per share for France; net income for Germany, Sweden, and Portugal; return on assets for Spain, Sweden, and the UK; and earnings per share for Spain.

Similarly, Goodwin and Ahmed (2006) and Haller et al. (2009) examined the impact of IFRS adoption on net income and equity in Australia and Germany, respectively. In the case of Australia, net income increased for small and medium-sized firms while equity increased for small firms and decreased for large firms after IFRS adoption. In the case of Germany, net income and equity increased after IFRS adoption.

The impact of IFRS adoption on financial ratios is also examined in the literature. In a cross-country setting, Aubert and Grudnitski (2011) found significant positive differences in the return on assets between pre and post IFRS period for the firms in Belgium, Finland, France, Italy, the Netherlands, Sweden, Switzerland, and the United Kingdom. On the contrary, in the case of Turkey, Dalcı and Özyapıcı (2017) found that transition to IFRS does not influence liquidity, solvency, and profitability ratios. These contradicting findings can be attributed to the changes in accounting policies that a firm introduces after IFRS adoption. Kvaal and Nobes (2012) found that policy change per non-financial firm in the UK is 0.34, for Germany, it is 0.65, and for France, it is 1.03. This indicates that firms are slow in incorporating accounting policy changes after IFRS adoption. Thus, no or very little difference is observed in the accounting numbers reported under local GAAP and IFRS.

3.2. Earnings quality (accruals quality)

Earnings quality is assessed using various proxies (see review paper by Dechow et al., 2010). Several proxies such as earnings persistence, accruals quality, earnings smoothness, timeliness, target beating, earnings response coefficient (value relevance), financial restatements, internal control weakness, and firms subject to regulatory scrutiny are used in the literature. Of these, the most widely used proxy is accruals quality. It is estimated using various earnings management models that decompose total accruals into normal and abnormal accruals.

The literature has examined earnings management practices

during pre-and post-IFRS adoption to understand the impact of IFRS on accruals quality. Hao et al. (2019) observed aggressive reporting of accruals post-IFRS adoption. Zhou et al. (2009) and Liu et al. (2011) found no significant decrease in earnings management in the post-adoption period in China. Similar results were observed in Egypt (Elbannan, 2011), New Zealand (Kabir et al., 2010) and India (Himanshu & Singh, 2021). However, in the case of Italy, Spain, and Portugal (Aubert & Grudnitski, 2011), Korea (Key & Kim, 2020), France (Zéghal et al., 2011), Australia (Habib et al., 2019), and Brazil (Pelucio Grecco et al., 2014) IFRS produced higher quality accruals as compared to the local GAAP of respective countries. Eiler et al. (2021) found that firms listed in Mexico have lower earnings management via income smoothing.

A meta-analysis by Ahmed et al. (2013) indicates that IFRS produces more relevant and faithful information compared to the local GAAP. It also reduces the scope for managerial discretion and improves analysts' earnings forecasts. On similar lines, Türel (2009) found improvement in the value relevance of earnings and book value in the post-adoption period in Turkey. Ismail et al. (2013) found an improvement in the value relevance of earnings while a decrease in value relevance of book value in the post-adoption period in Malaysia. Chamisa et al. (2012) found IFRS is more value-relevant in comparison to the Chinese GAAP. In a cross-country setting, Aubert and Grudnitski (2011) found improvement in the value relevance of accounting information in the countries such as Belgium, Finland, France, Greece, Italy, the Netherlands, Norway, Sweden, and the United Kingdom. They found improvement in the timeliness of accounting information in the countries such as Belgium, Finland, France, Greece, Italy, the Netherlands, Norway, Sweden, and Switzerland.

3.3. Institutional Environment in India

3.3.1. Financial Reporting Environment in India

The financial reporting environment in India is governed by the Ministry of Corporate Affairs (Government of India), the Companies Act of 2013, National Financial Reporting Authority, Institute of Chartered Accountants of India, and Securities and Exchange Board of India.

3.3.2. IFRS Convergence in India

In India, the IFRS converged accounting standards are known as the Indian Accounting Standards (Ind AS). The roadmap for IFRS convergence is as under:

Voluntary adoption

Voluntary adoption was permitted from the period beginning on 1st April 2015. Such firms should prepare comparatives as per Ind AS for the financial year ending on 31st March 2015.

Mandatory applicability

From the period beginning on or after 1st April 2016, all the listed firms /unlisted firms/ firms which are about to be listed and having a net worth of Rs. 500 crores or more to adopt Ind AS for preparing their financial statements. Such firms to provide comparatives as per Ind AS for the year ending on 31st March 2016.

For the period beginning on or after 1st April 2017, all the listed firms and firms which are about to be listed and having a net worth of less than Rs. 500 crores; unlisted firms with a net worth of Rs. 250 crores but less than Rs. 500 crores to adopt Ind AS for preparing their financial statements. Such firms to provide comparatives as per Ind AS for the year ending on 31st March 2017.

For the scheduled commercial banks, insurance firms, and non-banking financial companies (NBFCs), the Reserve Bank of India has deferred the implementation of Ind AS till further notice. Earlier it was proposed to implement Ind AS for such firms in a phased manner from the period beginning on 1st April 2018.

3.4. Research Gap

In emerging economies like India, IFRS converged accounting standards can bolster cross-border investments (Gordon et al., 2012; Tweedie & Seidenstein, 2005) and foreign direct investment (Mameche & Masood, 2021) through the easy comparison of financial statements between countries. Thus, emerging economies are inclined to adopt/converge with IFRS. The EU experience reveals that IFRS adoption significantly affects the financial statements, reported accounting numbers, and accruals quality. However, the political, economic, institutional, and accounting environment in India is different from the EU. Thus, it is interesting to know how a change in the accounting regime that is a shift from IGAAP to Ind AS can impact the reported accounting numbers and accruals quality in India. The financial year 2015-16 and 2016-17 are unique years to examine this impact as the firms adopting Ind AS from the financial year 2016-17 and 2017-18 are required to provide the comparatives for 2015-16 and 2016-17 as per Ind AS. Thus, for these years, data as per the IGAAP and Ind AS both are available.

4. Research Methodology

4.1. Hypotheses

H01: There is no significant difference between the key accounting measures reported under IGAAP and Ind AS.

H02: There is no significant difference between the accruals quality under IGAAP and Ind AS.

4.2. Variables

See Table 1 for operationalization of variables.

4.3. Sample, time frame, and data source

Phase 1 of Ind AS implementation (2016-17)

The sample consists of 694 listed firms covered under phase 1 of Ind AS implementation. The accounting data of the financial year 2015-16 is used as for this year data is reported as per IGAAP and Ind AS both. The data is extracted from the Centre for Monitoring Indian Economy's Prowess database.

Phase 2 of Ind AS implementation (2017-18)

The sample consists of 100 listed firms covered under phase 2 of Ind AS implementation. The accounting data of the financial year 2016-17 is used as for this year, data is reported as per IGAAP and Ind AS both. The data is hand-collected from the annual reports of the respective firms.

5. Findings and Discussion

5.1. Effects on Key Accounting Measures

Hypothesis 1 examines whether there is a significant difference between the accounting data reported under IGAAP and Ind AS. For this purpose, descriptive statistics of accounting data reported under both regimes are compared. To examine whether the difference between the accounting data reported under both regimes is statistically significant, Wilcoxon signed-rank test is used. As per the Shapiro-Wilk test, the data is not normally distributed. Hence paired t-test could not be used.

5.1.1 Descriptive statistics

Table 2 Panel A, B, C, and D present descriptive statistics of key accounting measures as per IGAAP and Ind AS for the years 2015-16 and 2016-17, respectively. For phase 1, differences in the values reported under both regimes are observed for accruals, change in stock, receivables, inventory, current liabilities, profit after tax, depreciation, current ratio, return on total assets, revenues, total assets, and interest expense. For the remaining variables, no differences are found. However, for phase 2, large deviations are not observed in the values reported under both regimes. This may be possible as the firms under both phases are significantly different in terms of size and net worth.

Table 1: Measurement of variables

Variables	Measurement
Total assets, revenue, change in stock, operating cash flow, interest, depreciation, inventory, receivables	As reported in financial statements
Return on assets	(Net income/Total assets) * 100
Net income	PAT as reported in financial statements
Accruals	Net income minus operating cash flows
Current ratio	Current assets/current liabilities

Source: Author's compilation

Table 2: Panel A- Indian GAAP (IGAAP) 2015-16

Variables	N	Mean	Median	Standard deviation	Minimum	Maximum
Total assets (in crore Rs.)	621	8591.87	2341.17	29322.56	0.01	482112
Revenue (in crore Rs.)	616	5488.42	1523.79	21121.41	0	339407.5
Change in stock (in crore Rs.)	558	46.06	-0.19	519.06	-767.74	8517
Cash flow from operations (in crore Rs.)	617	694.91	127.32	2992.94	-2518.47	43447
Profit after tax (in crore Rs.)	619	365.61	61.15	2044.35	-11906.2	27384
Accruals (in crore Rs.)	616	-328.44	-39.83	1821.63	-23753.9	5089
Interest expense (in crore Rs.)	584	179.35	37.21	467.52	0.01	3775
Depreciation (in crore Rs.)	614	215.99	50.13	832.57	0.01	12031.86
Return on total assets (%)	619	3.40	3.63	11.69	-110.61	31.56
Inventory (in crore Rs.)	562	885.97	236.89	2744.39	0.01	38739.11
Receivables (in crore Rs.)	612	763.10	249.59	1924.93	0.03	27047.78
Current assets (in crore Rs.)	621	3189.13	989.58	92538	0.01	92538
Current liabilities (in crore Rs.)	619	2394.42	637.1	7568.39	0.21	123863
Current ratio (times)	619	2.52	1.43	5.48	0.03	87.98

Source: Author's calculation

Table 2: Panel B- Indian Accounting Standards (Ind AS) 2015-16

Variables	N	Mean	Median	Standard deviation	Minimum	Maximum
Total assets (in crore Rs.)	683	9373. 95	2350.61	30495.11	0.01	482112
Revenue (in crore Rs.)	685	5769.29	1490.16	23028.34	0	400257.8
Change in stock (in crore Rs.)	685	-13.204	0	243.69	-4171	769.31
Cash flow from operations (in crore Rs.)	683	734.59	115.91	2989.83	-2518.47	43447
Profit after tax (in crore Rs.)	685	396.23	59.58	2105.26	¯11906.2	27384
Accruals (in crore Rs.)	683	-337.45	-36.92	1947.72	-23753.9	17375.52
Interest expense (in crore Rs.)	683	182.38	30.21	500.39	0	4914.84
Depreciation (in crore Rs.)	683	236.20	47.2	887.59	0	12031.86
Return on total assets (%)	683	-0.55	3.34	99.60	-2580.51	77.58
Inventory (in crore Rs.)	683	759.26	165.77	2524.39	0	38739.11
Receivables (in crore Rs.)	683	744.32	222.92	1871.04	0	27047.78
Current assets (in crore Rs.)	683	3164.07	989.58	8171.11	0.01	92538
Current liabilities (in crore Rs.)	683	2375.47	604.9	7059.05	0	123863
Current ratio (times)	680	3.37	1.44	15.85	0.0007	382.07

Source: Author's calculation

Table 2 Panel C: Indian GAAP (IGAAP) 2016-17

Variables	N	Mean	Median	Standard deviation	Minimum	Maximum
Total assets (in crore Rs.)	100	541.69	326.16	652.04	21.84	4664.15
Revenue (in crore Rs.)	99	468.28	297.29	527.21	0.04	2879.38
Change in stock (in crore Rs.)	85	2.17	1.33	60.80	¯466.6	202.64
Cash flow from operations (in crore Rs.)	98	37.47	20.37	68.32	-222.37	321.69
Profit after tax (in crore Rs.)	99	17.40	12.7	55.32	-330.6	209.57
Accruals (in crore Rs.)	97	-19.17	-3.81	66.18	-330.45	260.35
Interest expense (in crore Rs.)	97	20.67	9.07	44.28	0.04	368.44
Depreciation (in crore Rs.)	99	13.10	7.92	15.12	0.003	105.12
Return on total assets (%)	100	0.51	4. 74	8. 14	-19. 21	27. 98
Inventory (in crore Rs.)	95	113.10	56.87	207.72	0.17	1406.78
Receivables (in crore Rs.)	98	86.35	63.40	92.48	0.25	514.06
Current assets (in crore Rs.)	100	268.51	175.27	328.42	6.09	1999.23
Current liabilities (in crore Rs.)	100	226.55	122.46	342.79	0.19	2358.45
Current ratio (times)	100	2. 96	1. 40	11. 08	0.04	111. 63

Source: Author's calculation

Table 2: Panel D- Indian Accounting Standards (Ind AS) 2016-17

Variables	N	Mean	Median	Standard deviation	Minimum	Maximum
Total assets (in crore Rs.)	100	564.86	349.94	644.49	21.85	3899.72
Revenue (in crore Rs.)	99	487.64	306.47	563.49	0.05	3433.17
Change in stock (in crore Rs.)	88	2.87	2.61	57.43	-466.6	210.39
Cash flow from operations (in crore Rs.)	97	41.05	20.25	80.61	-221.63	427.94
Profit after tax (in crore Rs.)	100	16.30	13.44	58.29	-331.61	203.32
Accruals (in crore Rs.)	97	-24.96	-5.09	70.43	-317.28	214.5
Interest expense (in crore Rs.)	96	20.04	7.85	41.46	0.04	318.88
Depreciation (in crore Rs.)	99	13.36	8.33	14.56	0.08	76.17
Return on total assets (%)	100	4.59	4.43	8.05	-20.64	24.16
Inventory (in crore Rs.)	96	110.31	53.97	198.61	0.03	1405.01
Receivables (in crore Rs.)	99	88.36	61.21	92.86	0.51	457.97
Current assets (in crore Rs.)	100	26.21	192.55	299.57	6.01	1749.2
Current liabilities (in crore Rs.)	100	238.44	132.08	346.70	0.19	2359.43
Current ratio (times)	100	2. 81	1.32	10.77	0.04	108.63

Source: Author's calculation

5.1.2 Wilcoxon signed-rank test (full sample)

After comparing the descriptive statistics of key accounting measures reported under both the accounting regimes, the Wilcoxon signed-rank test is used to check whether the difference is statistically significant or not. Table 3 reports the results of the test. For phase 1, there is a statistically significant difference between the values reported under both the accounting regimes for revenues, interest expense, return on total assets, current liabilities, and current ratio. In the case of the remaining variables, it is not statistically significant. For phase 2, there is a statistically significant difference between the values reported under both the accounting regimes for total assets, revenues, change in stock, operating cash flows, accruals, interest expense, inventory, receivables, current assets, current liabilities, and current ratio. However, it is not significant in the case of profit after tax, depreciation, and return on total assets.

The Wilcoxon signed-rank test gives additional insights. The comparison of descriptive statistics reveals that there are deviations in the values of variables reported under both regimes for phase 1. The same is not observed for phase 2. However, the Wilcoxon signed-rank test shows that majority of the variables are statistically different for phase 2. These results indicate that the size and net worth of the firms have an impact on the accounting policy changes after Ind AS implementation. The firms under phases 1 and 2 are significantly different in terms of size and net worth. Also, the time of implementation was different. Moreover, firms under phase 2 had an opportunity to learn from the experience of firms under phase 1. These firms also had more time to do the impact assessment of Ind AS implementation. This is evident in the response of the firms to change in the accounting regime.

Table 3: Results of Wilcoxon signed rank test (full sample) 2015-16 and 2016-17

2015-16				2016-17			
Variables	**Z**	**p-value**	**N**	**Variables**	**Z**	**p-value**	**N**
Total assets	-0.577	0.5637	617	Total assets	-7.042	0.00	100
Revenue	-21.313	0	614	Revenue	-4.928	0.00	98
Change in stock	-0.144	0.8858	556	Change in stock	-2.077	0.0378	83
Cash flow from operations	0.001	0.9991	613	Cash flow from operations	-2.731	0.0063	95
Profit after tax	0.001	0.9991	617	Profit after tax	-1.604	0.1087	99
Accruals	-0.001	0.9991	612	Accruals	2.068	0.0386	96
Interest expense	10.149	0	580	Interest expense	4.208	0.00	95
Depreciation	-1.414	0.1573	610	Depreciation	0.203	0.8394	98
Return on total assets	1.732	0.0833	615	Return on total assets	1.102	0.2705	100
Inventory	0.575	0.5651	558	Inventory	-2.093	0.0363	95
Receivables	1	0.3173	608	Receivables	-3.452	0.00	98
Current assets	0.002	0.9987	617	Current assets	-1.901	0.0572	100
Current liabilities	11.866	0	615	Current liabilities	-5.516	0.00	100
Current ratio	-11.907	0	615	Current ratio	4.040	0.00	100

Source: Author's calculation

5.1.3 Sub-sample Analysis

After the full sample analysis, it is examined whether the difference between the values reported under both the accounting regimes is statistically significant for the sub-sample of firms. Two sub-samples, namely, firms affiliated with a business group and firms not affiliated with a business group, are examined. The reporting incentives of firms affiliated and not affiliated with a business group are different (Christensen et al., 2015). The business landscape in India is dominated by business groups. Thus, it is interesting to examine the impact of Ind AS on firms affiliated and not affiliated with a business group separately.

Table 4 reports the result for the firms affiliated with a business group for phases 1 and 2, respectively. For phase 1, the results are similar to the full sample analysis except for the return on total assets. For phase 2, the results are similar to the full sample analysis except for the change in stock, inventory, operating cash flows, accruals, and interest expense. This indicates that the size of the business group influences the response to the new accounting regime.

Table 5 reports the result for the firms not affiliated with a business group for phases 1 and 2, respectively. For phase 1, the results are similar to the full sample analysis except for return on total assets and change in stock. As opposed to the full sample analysis, the difference between the return on total assets is not statistically significant, while the difference between the change in stock is statistically significant. For phase 2, the results are similar to the full sample except for the change in stock, profit after tax, accruals, receivables, and current assets.

Table 4: Results of Wilcoxon signed rank test
(Sub-sample: Firms affiliated with a business group) 2015-16 and 2016-17

2015-16				2016-17			
Variables	**Z**	**p-value**	**N**	**Variables**	**Z**	**p-value**	**N**
Total assets	-1.414	0.1573	435	Total assets	-4. 458	0	37
Revenue	-18.045	0	434	Revenue	-3. 455	0	37
Change in stock	0.89	0.3733	400	Change in stock	-1. 398	0.1620	31
Cash flow from operations	-1	0.3173	431	Cash flow from operations	-1. 227	0.2200	36
Profit after tax	-1	0.3173	435	Profit after tax	-0. 256	0.7976	37
Accruals	1	0.3173	430	Accruals	1. 351	0.1767	36
Interest expense	9.217	0	416	Interest expense	1. 573	0.1158	36
Depreciation	-1	0.3173	432	Depreciation	0. 206	0.8367	37
Return on total assets	1.414	0.1573	433	Return on total assets	0. 747	0.4552	37
Inventory	-0.002	0.9986	398	Inventory	-0. 171	0.8642	37
Receivables	--	--	431	Receivables	-4. 305	0	37
Current assets	-0.577	0.5637	435	Current assets	-1. 893	0.0583	37
Current liabilities	10.713	0	433	Current liabilities	-3. 598	0	37
Current ratio	-10.754	0	433	Current ratio	2. 617	0.0089	37

Source: Author's calculation

Table 5: Wilcoxon signed rank test (Sub-sample: Firms not affiliated with a business group) 2015-16 and 2016-17

2015-16				2016-17			
Variables	**Z**	**p-value**	**N**	**Variables**	**Z**	**p-value**	**N**
Total assets	1. 000	0.3173	182	Total assets	-5.395	0	63
Revenue	-11.326	0.0000	180	Revenue	-3.542	0	61
Change in stock	-1.863	0.0624	156	Change in stock	-1.510	0.1311	52
Cash flow from operations	1.000	0.3173	182	Cash flow from operations	-2.524	0.0116	59
Profit after tax	1.000	0.3173	182	Profit after tax	-1.778	0.0754	62
Accruals	-1.000	0.3173	182	Accruals	1.524	0.1275	60
Interest expense	4.248	0.0000	164	Interest expense	4.201	0	59
Depreciation	-1.000	0.3173	178	Depreciation	0.052	0.9581	61
Return on total assets	1.000	0.3173	182	Return on total assets	0.852	0.3940	63
Inventory	1.000	0.3173	160	Inventory	-2.587	0.0097	58
Receivables	1.000	0.3173	177	Receivables	-0.798	0.4252	61
Current assets	1.000	0.3173	182	Current assets	-0.739	0.4596	63
Current liabilities	5.074	0.0000	182	Current liabilities	-4.116	0	63
Current ratio	-5.078	0.0000	182	Current ratio	3.060	0.0022	63

Source: Author's calculation

5.2 Consequences of Ind AS (IFRS Convergence) on Accruals Quality

Hypothesis 2 examines whether accruals quality has improved after Ind AS implementation. The accruals quality depends on the mapping of operating cash flows in the accruals. The following statistical model focussing on a comparison between the association of accruals and operating cash flows is used:

$DACC_i = b0 + b1\ CFO_i$ (Wysocki, 2009)

Where DACC is accruals, and CFO is the operating cash flows of a company, both scaled by total assets.

The above model is used for both IGAAP and Ind AS data. Following Grudnitski and Aubert (2011), two conditions are used to assess whether Ind AS produce accruals of higher quality than IGAAP:

1. The difference in R-squared estimated for Ind AS and IGAAP should be positive (R^2 Ind AS > R^2 IGAAP).
2. This positive difference in R-squared should be significantly different from zero as measured by the F-statistic calculated as follows:

$F = (R^2\ \text{Ind AS} - R^2\ \text{IGAAP})/((1-R^2\ \text{Ind AS})/(\text{n-df IGAAP});$

Where n is the number of observations and df is the degrees of freedom used by the estimation equation.

Table 6 reports the result of regression analysis for both phases. There is a negative and significant relationship between accruals and operating cash flows under both the accounting regimes and for both the phases. However, for phase 1, the first condition is not met as the R-squared for

IGAAP is greater than the R-squared for Ind AS. Thus, it cannot be assessed whether Ind AS produces accruals of higher quality than IGAAP. In the case of phase 2, the first condition is met; however, the second condition is not met. Thus, no conclusive evidence is found whether a change in the accounting regime results in better accruals quality.

6. Conclusion and Implications

This study examined the impact of IFRS convergence (Ind AS) on the reported accounting data and accruals quality in India. Ind AS was implemented in a phased manner in India. Firms of different sizes and net worth are covered under both phases. This study examines two phases of Ind AS implementation. Thus, the study focuses on two unique financial years ending on 31st March 2016 and 31st March 2017. For both these financial years, data as per IGAAP and Ind AS are available. The comparison of descriptive statistics reveals noticeable differences in the data for accruals, change in stock, current ratio, return on total assets, interest expense, and total assets for phase 1. In the case of phase 2, noticeable differences are not found in the descriptive statistics. Further, the Wilcoxon signed-rank test for phase 1 indicates a statistically significant difference in the case of revenues, interest expense, return on total assets, current liabilities, and current ratio reported under both the accounting regimes. For other key accounting measures, information is comparable under both regimes. For phase 2, except for profit after tax, depreciation, and return on total assets, all the variables have statistically significant differences. This indicates that firms in phase 2 were more responsive to change in accounting policy in comparison to phase 1. This might be possible as they had more time to do the impact assessment and learn from the experience of the firms covered in phase 1.

A similar result is observed for the sub-sample analysis under phases 1 and 2. This indicates that the phase 1 firm affiliated with a business group is not inclined to change their accounting policies drastically post Ind AS. The same is observed for firms not affiliated with a business group. Thus, firms in India were not quick to incorporate major accounting policy changes post Ind AS in phase 1. This finding coincides with Kvaal and Nobes (2012). We observe contrasting results for phase 2 in the case of both the sub-samples. The firms affiliated with a business group and firms not affiliated with a business group are more responsive to accounting policy changes. This indicates the benefits of starting second and learning from others' experiences. Thus, we observe significant differences in the key accounting numbers for both phases. However, the

Table 6: Regression results

	2015-16		2016-17	
DV: DACC	**IGAAP**	**Ind AS**	**IGAAP**	**Ind AS**
C	-14.57 (-0.29)	3.0837 (0.06)	49. 1240 (0.85)	2. 2933 (0.04)
CFO	-0.45 (-27.38)***	-0.46 (-26.43)***	-0.6477 (-8.74)***	-0.6137 (-9.62)***
N	616	683	98	97
F	749.76	698.61	76. 35	92. 53
p-value	0	0	0	0
R-squared	0.55	0.51	0. 4430	0. 4934
Adjusted R-squared	0.55	0.51	0. 4372	0. 4881

****Significant at 1%.*

Source: Author's calculation

impact of Ind AS on accruals quality could not be assessed as the necessary conditions were not met.

The findings provide insights to academic researchers, standard setters, analysts, and investors. The study contributes to the academic body of knowledge by examining the impact of IFRS convergence on the reported accounting numbers in a unique institutional setting – India. The standard-setters can gain an assessment of the impact of Ind AS on reported accounting numbers and whether there is a substantial change in the accounting policies and financial statements of firms after Ind AS implementation. The results indicate a pattern in Ind AS implementation by the firms. Firms under phase 2 were more inclined to initiate accounting policy changes. This can help them in planning and improving the process of implementation and assessment. The analysts and investors will get an understanding as to whether the earnings reflect fundamentals or changes in the accounting regime. Thus, it will help them evaluate their investment options effectively. Future research can examine specific accounting standards issued under the new accounting regime in India.

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Collaboration Competency as a Driver for Improving Performance of Small-Medium Enterprises in Resource Constraint Economies: An Exploratory Study

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Abstract

Small and Medium Enterprises (SME) in developing economies are largely constrained by their resource base, particularly capital intensive resources like research and development, product innovation, technology development, etc. Resource base limitations not only restrict the competitive performance of a firm but also hamper strategic growth and development as well as jeopardise the survival of a firm in an increasingly competitive business environment. The performance of a firm is largely an outcome of multiple tangible and intangible resources; however, accessibility of such resources for SMEs always remain an interminable quest. With increasing government interventions and technological developments, this quest of SMEs can be largely filled by building network-based relationships among the various entities of an industry. Collaboration building can be beneficial in eliminating the resource base constraints faced by a firm. The relationship and influence of the collaboration building on the competitive performance have been largely unexplored among the SME segment, especially in emerging economies like India. The present study aims at exploring this unmapped research area in the Indian context at the regional levels, mainly due to the large resource constraints at such points. Analysis of the collected data from the studied SMEs revealed a significant positive association between the endogenous (collaboration) and exogenous variables (performance). The study also estimated the effect of the independent variable on the dependent variable among the studied SME using regression analysis. The study, thus, provides a significant insight towards understanding collaboration as a driver for accelerating performance among the resource-constrained firms and significantly favours building collaboration competency among the SMEs, especially in those regions where industrial and infrastructure developments are still below the international and national standards. The study can be highly beneficial to the entrepreneurs and policymakers in terms of accepting the significance of collaboration building for the strategic growth and development of a firm and industry in a resource-constrained economy.

Keywords: *Competitive Performance, Collaboration, Small and Medium Enterprises, Agro-food Processing Industry, Resource-Constrained Economies*

1. Introduction

Increasing business competition makes the survival of a firm a very tough battle in an industry, particularly for SMEs. With limited availability of resources, both tangible and intangible, SMEs find it challenging to expand their horizons and resource bases beyond a certain frontier. This also reduces their expansion and diversification plans, and therefore, growth and development among the SMEs become restricted. However, during the last few decades, SMEs have been exploring strategic creativities that can change their resource-constrained business model to a resource-rich business model. The search for such happenings is also significant because of the increasing interdependencies of economies for the global trade of products and services and also changing business competition, both of which favour inter-connectivity and resource sharing among the small-sized business firms. The SME sector represents the backbone of the large manufacturing industries in both developed and developing economies. The role of the SME sector is more significant in developing economies like India. In India, the SME sector is the major input provider for the large manufacturing firms and also the growth accelerator of the Indian economy – both in terms of revenue and employment generation. Post the economic reforms of 1991, the SME sector of India has acted as a catalyser for accelerating growth and development in the manufacturing and service sector. Its performance and contribution for uplifting the living standards, commerce and trade have been quite significant over the years, both at the regional and national levels. The SME sector contributes around 28 per cent to the Indian Gross Domestic Product (GDP) (Ministry of MSME, Annual Report, 2017). Its share is around 40 per cent of the total exports of India and produces around 6000 products and with employment opportunities to around 69 million people across India (Working Group Report, 2012-17). This sector in Indian has grown at an average rate of 13 per cent during the 11th Plan. To further accelerate the growth momentum of the MSME sector, the Government of India (GoI) has initiated multiple interventions such as MyMSME, Direct Benefit Transfer (DBT), MSME Samadhaan, MSME Sampark, CHAMPIONS portal and others (Ministry of MSME, Annual Report, 2020).

As per the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 of the Government of India (GoI), the MSME sector of India is divided into two broad categories, i.e. manufacturing and service sector. The investment limits in plant and machinery in both categories are given in Table 1. MSMED Act (2006) comprehensively defines the enterprises and provides a holistic understanding of each enterprise. Strategic development of the Indian SME sector is highly crucial for making India a global manufacturing hub, particularly given the National Manufacturing Policy (2011), which has envisioned increasing the productivity of the manufacturing sector of India and the creation of 100 million jobs. The development of the SME sector in India has been a thrust area of every economic policy of the state and central governments. The central government sanctioned a budget of 6481.96 crores during the financial year 2017-18 for the growth and development of the MSME sector in India. Economic policies favour the growth and development of SMEs through the strengthening of institutional financing, building technology infrastructure, increasing technology diffusion, enhancing technology adoption rate, innovation and creativity, expansion of skill inventory base, market access, etc. (Working Group Report, 2012-17). However, building and expansion of resource base at the firm level is still an unexplored area of the SME sector in India.

One of the primary growth obstructing factors for SMEs in India is having a limited resource base, especially capital intensive resources like technology, research and development, innovations, new product developments, knowledge creation, etc. With increasing global competition pressures, SMEs are facing tremendous pressures and survival threats. There is an immediate need for improving the competitive capabilities of these enterprises and expanding their constrained resource base. From the strategic management point of view, the competitive capabilities of SMEs need to be strengthened through a competence-building approach. This approach believes in understanding SMEs on a more inclusive and sustainable basis. It strongly advocates for identifying the factors that improve the performance and ensure growth, development, and sustainability of resource-constrained firm's enterprises in highly competitive industry environments. It views resources within a firm as a basis for developing and defining the competitive behaviour of a firm in an industry (Barney, 1991; Porter, 1990; Prahalad & Hamel, 1990). Internal resources base favours competence

development and thus improves operational efficiency and effectiveness and can translate into the competitive advantage in the longer run. As per Li-Hua (2007), "*Competencies are a series of differentiated abilities, complementary resources, and routines of work that provide the basis for competitive capabilities and sustainable advantage in a particular business, through creating value for customers*". Building and strengthening firm competencies like marketing competency, technology competency, innovation competency, human resource competency, etc., increase the profitability and sustainability prospectus. It is highly indispensable for the firms to continuously work towards identifying and strengthening the various competencies, especially those competencies which have synergistic effects, operational efficiency, and remove resource base limitation. During the last few decades, collaboration/network competency is being highly researched for its centrality in removing limitations of a meagre resource base and creating synergy within the firms, especially among SMEs. Collaboration competency development among SMEs of developing countries like India is still in the infancy stage of evolution. The role of collaboration/networking in increasing the performance among the SME needs to be researched and understood, especially in those regions where an inadequate resource base is a macro-level problem, such as in Jammu and Kashmir. Therefore, the present study aims at understanding the underlying association between collaboration competency and performance of the SME in resource-constrained economies, thereby filling the gap in the existing literature. Moreover, the study can be constructive for the researchers, academicians, practitioners, policymakers, and entrepreneurs for understanding the relationship and interaction of the collaboration competency with the performance of an enterprise. The study ahead will discuss the relevant literature related to collaboration and performance, followed by the methodology and results of the study.

2. Literature Review

A firm is a basic block of industry, and with a limited resource base, the firm aims at profitability in its operations (Wang et al., 2004). However, this traditional orientation of the firms is no longer found accepted in the present contemporary business environment, which is heavily driven by severe competition and core competencies perspective. Firms operating in a dynamic business environment need to expand their constrained resource base and be a part of a value network. With increasing pressure from the changing business environment and increasing competition in the industry, firms are being forced to infuse efficiency and effectiveness in every operational activity and simultaneously improve their competitiveness levels. The concept of 'competitiveness' advocates for improving the competitive performance of a firm on a continuous basis (Singh et al., 2007). For measuring the competitiveness of a firm, performance evaluation is a tactical tool (Chenhall, 2005). Performance evaluation is a complex phenomenon and is highly dependent upon factors, which can be quite diverse. Therefore, for understanding the performance of a

Table 1: Investment limits in the Plant & Machinery as per MSMED Act, 2006

Manufacturing Sector		
S.No	**Enterprise**	**Investment in Plant & Machinery (In Rs.)**
1.	Micro Enterprises	Not Above 25 Lakhs
2.	Small Enterprises	Above 25 Lakhs but less than 05 Crores
3.	Medium Enterprises	Above 5 Crores but less than 10 Crores
Service Sector		
S.No	**Enterprise**	**Investment in Plant & Machinery (In Rs.)**
1.	Micro Enterprises	Not Above 10 Lakhs
2.	Small Enterprises	Above 10 Lakhs but less than 02 Crores
3.	Medium Enterprises	Above 02 Crores but less than 05 Crores

Source: Ministry of Micro, Small and Medium Enterprises

firm in an inclusive manner, it is extensively suggested in the literature to use both financial and non-financial factors (Sanchez et al., 2012; Sousa, 2004).

As advocated by Cleveland et al. (1989) performance of a firm is a result of multiple factors, and thus aggregation of various measures, such as manufacturing, marketing and financial measures, should be carried out for estimation of the performance of a firm in an inclusive manner. Literature defines the manufacturing performance of a firm through four factors, i.e. cost, quality, dependability/delivery, and flexibility (Kim & Arnold, 1992; Kumar et al., 1999; Hung et al., 2015; Prester, 2013; Shahnawaz, 2015); marketing measure is largely described through sales performance (Lau, 2002; Sharma & Fisher, 1997; Moorman & Rust, 1999); whereas the financial performance of a firm is explained using profit after tax (Moorman & Rust, 1999; Buckley et al., 1988; Fischer & Schornberg, 2007). The aggregation of these three measures provides an in-depth understanding of the performance of a firm on multiple fronts in an industry. However, the aggregation also creates linkages of the performance outcome with the multiple tangible and intangible resource factors of a firm.

In recent times, the collaboration capability of a firm has started getting the attention of researchers and academicians, especially in the SME sector, which faces multiple challenges due to resource constraints. Firms need to build and expand their collaboration network for reducing the negativity of the constrained resource base. The resource-based view (RBV) of the firm advocates for the availability of unique resources with a firm, that can provide the firm with a strong push for sustaining in the competitive markets through the formation of competitive advantage (Wang et al., 2004). Large organisations have the ability to create a rich resource base; however, SMEs don't have such capabilities (Thompson, 1967). SMEs are generally limited by resource availability and therefore remain underperforming due to the failure of creating economies of scale, scope, and time. Moreover, they also fail in creating efficiency and effectiveness on a large scale in their operational activities. Based on RBV theory, collaboration helps in the expansion of the resource base within a firm through resource sharing and dependence (Wang et al., 2004). Collaboration is more beneficial to the small and young entrepreneurs through easing of the entrepreneurial and business activities (Wang et al., 2004; Greve, 1995). In an intensely competitive business environment, collaboration competency is very important for building relationships and trust and therefore improving the competitive performance of a firm, especially among the SMEs (Stuart & McCutcheon, 2000). Collaborative capabilities help a firm to assimilate, disseminate and process information at a faster speed and thus reduce informational asymmetries (Gulati, 1995). Collaboration of a firm with other institutions creates an advantageous scope as well as improves the resource base of a firm, which ultimately improves their survival and performance concerning the other firms (Mowery et al., 1996; Donckels & Lambrecht, 1995; Uzzi, 1996 and Imamoglu et al., 2019). Inter-organisational linkages provide strategic leverage to the linked firms and provide for expanding their meagre resource base and simultaneously increase their competitive position viz-a-viz other competitors (Wang et al., 2004; Freel, 2000; George et al., 2001; Twomey, 1991). For sustaining in a competitive business environment, which is characterised by intense competition, firms need to consistently focus on reducing the resource base disadvantage and find means of improving and expanding resource constraints. Through collaboration competency, SME finds it easy and smooth to build their relationship networks for harmonisation of resources as well as the acceleration of their market performance through increased sales and profits (George et al., 2001; Rothwell, 1991), knowledge creation and sharing (Freel, 2000; Chun & Mun, 2012) and significantly mitigate the risks of resource limitations (Karlsson & Olsson, 1998; Westhead & Storey, 1995, Zaridis et al., 2021).

For an SME facing disadvantages arising out of the meagre resources, collaboration is an operative strategic option for ensuring survival, growth, and sustainability in a high competition market/industry. Collaboration competency favours introducing acceleration of the firm's operational efficiency and effectiveness and therefore creates an advantageous scenario based on value-networking.

3. Methodology Used

The key objective of the present study was to understand the relationship and impact of collaboration competency viz-a-viz competitive performance of a firm. Based on the exploratory research design, the study collected data related to collaboration competency and performance through a well-structured questionnaire. Questionnaire statements were based upon a five-point Likert scale with a scale reliability score for Cronbach alpha as 0.8. The sample of the current study included 61 agro-food processing SMEs. Each studied firm was evaluated on the collaboration and

performance variable in comparison to their immediate competitors.

3.1 Construction of Collaboration Competency Index: The collaboration competency in the study was described and measured through thirteen statements (refer Table 2). The descriptive statistics of the thirteen statements are given in Table 2. Log transformation technique was used for normalising the collected data. The scores of the thirteen statements were aggregated to form a collaboration competency index.

3.2 Construction of Performance Index: As observed from the literature review, both financial and non-financial measures were used for describing the performance of studied SMEs (Sousa, 2004; Sanchez et al., 2012). In total, six factors spread over three parameters were used for the construction of the performance index, i.e. performance on sales (marketing parameter), profit after tax (financial parameter), and cost, quality, flexibility and dependability (manufacturing parameter). Data related to these six factors were collected and summated for developing a single composite index, called as Performance Index (PI) (Cleveland et al., 1989). In the current study, PI has been used as a proxy for describing firm-level competitiveness and has been taken as a dependent variable in the regression analysis used. The descriptive statistics of the PI are given in Table 3

3.3 Measurement Method: For understanding the interaction between collaboration competency and performance index, the following hypothesis was proposed, i.e.

H_0: *Collaboration competency does not have an impact on the performance index of a firm.*

H_1: *Collaboration competency does have an impact on the performance index of a firm.*

The performance index was regressed with the Collaboration Competency Index at a 5 per cent level of significance for understanding the relationship and influence of endogenous and exogenous variables (Cleveland et al., 1989; Saurabh et al., 2017). The validity of the regression model has been measured with an F-test at a 5 percent level of significance. For ascertaining the relative positioning of each firm, a cross-table description was used, and each firm was placed in its respective quadrant concerning the other firms (Mahoney & Pandian, 1992).

Table 2: Descriptive Statistics of statements aggregated for construction of Collaboration Competency Index (N = 61)

Statements	Min.	Max.	Mean	Std. Deviation
Collaboration of the firm with retailers/distributors/customers for new product development	1.00	4.00	1.1639	.52219
Collaboration of the firm with retailers/distributors for new product marketing	1.00	4.00	1.4754	.67346
Collaboration of the firm with outside agencies for the testing of quality.	1.00	4.00	1.2131	.55120
Collaboration of the firm with suppliers for the maintenance of quality	1.00	4.00	1.1967	.51054
Collaboration of the firm with retailers/distributors/customers for the feedback on quality of products	1.00	4.00	1.9344	.81382
Collaboration of the firm with suppliers for the improvement of quality.	1.00	5.00	1.1475	.57260
Collaboration of the firm with academic institutes/ research institutes /other agencies for quality improvement.	1.00	4.00	1.1639	.58253
Collaboration of the firm with academic institutes/ research institutes /other agencies for technology improvement.	1.00	4.00	1.0820	.45808
Collaboration of the firm with academic institutes/ research institutes /other agencies for technology development	1.00	4.00	1.0492	.38411
Collaboration of the firm with suppliers for R&D	1.00	4.00	1.0492	.38411
Collaboration of the firm with competitors for R&D	1.00	4.00	1.0492	.38411
Collaboration of the firm with academic institutes/ research institutes /other agencies for R&D.	1.00	4.00	1.0984	.47275
Collaboration of the firm with suppliers/retailers for market development.	1.00	4.00	1.2131	.52009

Source: Authors calculation based upon primary data

Table 3: Descriptive analysis of the Performance Index (CPI)

S.No	Indices	Min.	Max.	Mean	Std. Deviation
1.	Quality based competitive index	0	0.67	0.2225	0.1412
2.	Cost-based competitive index	0	0.58	0.1616	0.1235
3.	Flexibility based competitive index	0	0.57	0.1974	0.1066
4.	Dependability based competitive index	0	0.6	0.199	0.0994
5.	PAT based competitive index	0	0.7	0.401	0.2642
6.	Sales based competitive index	0	0.7	0.4092	0.2527
7.	Performance index (PI)	0.22	3.82	1.5892	0.7381
8.	Collaboration Competency Index (CCI)	0	0.66	0.623	0.0935

Source: Authors calculation based upon primary data

4. Analysis and Discussion

Small and medium-sized enterprises are the central pillar of every industry in both developed and developing countries. In developing countries like India, the role of the SME sector is more crucial owing to its contribution towards revenue generation, employment generation, and importantly as an input industry for the large manufacturing industries. SME sector has a special share in all major economic policies of the government, both at the state and central levels. However, this sector has not been able to reach its maximum potential yet. Due to the limited availability of resources, especially financial and capital intensive resources, the performance of SMEs remains mostly restricted, especially at the regional levels. The restricted performance is more at those places where a meagre resource base is a macro-level phenomenon. To mitigate the risk of a constrained resource base, one of the possible solutions seems to expand the existing resource base. Due to the high-cost implication associated, such a solution seems to be practically impossible. Moreover, with a dynamic business environment and changing input technologies, impossibility increases further. However, if the problem is viewed from a strategic management perspective, expanding and strengthening the available resource base of the firm through collaboration/networking seems to be the reasonably justified solution. In large-scale enterprises, collaboration competency has been extensively studied and advocated for improving the operational excellence of the organisations. However, collaboration competency in SME has remained largely unexplored, especially in the developing countries (like India) and specifically at the regional levels and in specific industries, which are still at the infancy stage in India, e.g. agro-food processing industry in India. The current study filled this gap by measuring the association of collaboration competency with the performance of a firm.

The study studied the agro-food processing business because of its increasing predominance in India both at the national level and regional level. Also, the industry is a sunrise sector of India with immense potential for agro-food processing entrepreneurship and employment generation. During 2015-16, there were around 33555 agro-food processing units in India which generated employment for 1286438 individuals and profits of Rs. 1644223 lakhs (ASI, 2015-16). The performance of the Indian agro-food processing industry on selected parameters is given in Table 4. The agro-food processing industry is growing rapidly and is a potentially profitable industry among major Indian states, particularly hill states like Jammu and Kashmir, contributing significantly towards making India a hub of agro-food processing in the world. States like Jammu and Kashmir are rich in agriculture and horticulture resource base mainly due to the suitable climatic conditions and nutrient-rich soil. The agriculture and horticulture produce of Jammu and Kashmir, like apples, saffron, almonds, walnuts, etc., are famous across the globe for the taste and quality of the produce. Agro-food processing-based entrepreneurship is growing significantly in Jammu and Kashmir. Most of these processing units fall under the SME category. Therefore, they are perfect for studying the collaboration competence of SMEs. The performance of agro-food processing-based SMEs on the identified parameters is given in Table 5.

Table 4: Performance of the Indian Agro-Food Processing Industry (Year 2015-16)

Selected Parameters	103	104	106	107	Total
Number of Factories	1192	3147	19811	9405	33555
Fixed Capital*	687093	1411417	2740457	9456722	14295689
Gross Value Added*	458112	914975	1387370	3803391	6563848
Income*	330753	672844	600363	2288523	3892483
Profit*	215549	488920	194699	745055	1644223
Employment(no.)	60774	95621	327238	802805	1286438

**(Value in Rs. Lakh)*

Source: Authors Calculation based on ASI data for the year 2014 - 15

Firm-level performance of agro-food processing firms of Jammu and Kashmir state has been explained using Performance Index, and out of the surveyed firms, only 24.59 per cent firms are found to have a high score on the Performance Index, 31.14 per cent firms are found to have a medium-high score on Performance Index, 22.95 per cent firms are found to have a medium-low score on Performance Index, and 19.6 firms are found to have a low score on Performance Index. The collaboration Competency of the surveyed firms has been described through the various statements given in Table 2. Out of the surveyed sixty-one agro-food processing firms, only 8.91 per cent firms are found to be high on Collaboration Competency Index, 18.03 per cent have a medium-high score on Collaboration Competency Index, 22.95 per cent firms have a medium-low score on Collaboration Competency, and 50.81 per cent firms have a low score on it. During the interaction with the studied agro-food processing business owners, it has been observed that they face multiple challenges in their survival and growth, most of which arise due to the resource base constraints faced by these entrepreneurs. This has been further exaggerated by the present geopolitical disturbance and armed conflict prevailing in the state. Therefore, it is an inevitable need for these agro-food processing entrepreneurs to strengthen their collaboration network for infusing synergies in the operation and acceleration in the growth.

For understanding the empirical association and impact of the Collaboration Competency Index with the Performance Index, regression analysis was performed at a 5 per cent level of significance. The regression results revealed a positive correlation between Collaboration Competency and Performance Index. The value of R was observed to be 0.339. The value of R-square has been estimated as 0.159. Thus, Collaboration Competency Index explains 15.9 per cent variability in the Performance Index of the studied firms. The regression model is represented as:

Table 5: Performance of the Agro-Food Processing Industry of J&K (Year 2015-16)

Selected Parameters	103	104	106	107	Total
Number of Factories	11	16	44	43	114
Fixed Capital*	3540	2291	6140	11616	23587
Gross Value Added*	1141	1508	6086	33494	42229
Income*	654	938	2997	31358	35947
Profit*	384	376	851	28351	29962
Employment(no.)	207	480	1657	1966	4310

**(Value in Rs. Lakh)*

Source: Authors Calculation based on ASI data for the year 2014-15

$$Y = c + aX_1 \quad (1)$$

Where,

Y= Performance index of the studied agro-food processing units

X_1 = Collaboration Competency Index of the studied agro-food processing units

a = coefficient of Collaboration competency.

c = constant

As per the results of the regression analysis, equation 1 is rewritten as

$$\text{Performance Index} = 1.417 + 3.071 \text{ (Collaboration Competency)} \quad (2)$$

Model fitness of the regression equation used in the study (represented in equation 2) has been measured with an F score, which has been found significant at a 5 per cent level of significance with a value of 11.14. The regression estimates reveal that with one unit of investment towards building collaboration competency by the agro-food processing firms of J&K, their performance will increase by 3.071 units, which will improve their competing capabilities and minimise their resource constraints in the longer run.

For explaining the relative positioning of each surveyed agro-food processing firm of J&K, a cross-table description has been applied, and each firm has been placed in its respective quadrant concerning the other firms (Refer to Table 6). The cross-table description has been applied by dividing both constructed indices, i.e. Collaboration Competency Index and Performance Index, into four quadrants – high, medium-high, medium-low, and low (Avella et al., 2001). The primary reason for this division is to locate the number of firms in each category, i.e. the number of firms high in Collaboration Competency and Performance Index quadrant, firms in medium-high Collaboration Competency and Performance Index quadrant, firms in medium-low Collaboration Competency and Performance Index quadrant, and the number of firms in

Table 6: Cross-Table Description of the Surveyed of Agro-Food Processing Firms of J&K

		PERFORMANCE INDEX (PI) (0.22 to 3.81)				
		LOW	MEDIUM-LOW	MEDIUM-HIGH	HIGH	TOTAL
COLLABORATION COMPETENCY INDEX (CCI) (0 to 0.60)	HIGH	-	FIRM 44 FIRM 37	FIRM 5	FIRM 61 FIRM 20	5
	MEDIUMHIGH	-	FIRM 33 FIRM 17 FIRM 50	FIRM 7 FIRM 39 FIRM 8 FIRM 16 FIRM 45	FIRM 2 FIRM 6 FIRM 19	11
	MEDIUM LOW	FIRM 3 FIRM 40	FIRM 1 FIRM 11 FIRM 47 FIRM 48	FIRM 9 FIRM 10 FIRM 36	FIRM 4 FIRM 14 FIRM 18 FIRM 21 FIRM 56	14
	LOW	FIRM 23 FIRM 49 FIRM 59 FIRM 41 FIRM 29 FIRM 54 FIRM 38 FIRM 58 FIRM 60 FIRM 42	FIRM 35 FIRM 51 FIRM 34 FIRM 30 FIRM 55 FIRM 46	FIRM 13 FIRM 15 FIRM 22 FIRM 24 FIRM 25 FIRM 32 FIRM 52 FIRM 43 FIRM 53 FIRM 57	FIRM 12 FIRM 27 FIRM 26 FIRM 28 FIRM 31	31
	TOTAL	12	15	19	15	61

Source: Author's estimation based upon the primary survey

low Collaboration Competency and Performance Index quadrant. During the survey of the agro-food processing firms of J&K, it has been observed that the collaboration of the agro-food-based manufacturing firms with the external institutes is very much limited. There are only two firms with the high score on the Collaboration Competency and Performance Index, i.e. firm number 61 and 20, only one firm, i.e. firm number 5 is having a medium-high score on the Performance Index, and a high score on Collaboration Competency, five firms, i.e. firm numbers 7, 34, 8, 16 and 45 have the medium-high score on both indices and three firms, i.e. firm numbers 2, 6 and 19 are having score high on Performance Index and medium-high score on Collaboration Competency (Refer to Table 6). Around ten firms, i.e. firm numbers 23, 49, 59, 41, 29, 54, 38, 58, 60 and 42 are in the low Collaboration Competency and Performance Index quadrant, six firms, i.e. firm numbers 35, 51, 34, 30, 55 and 46 are in the medium-low Performance Index and low Collaboration Competency quadrant, four firms, i.e. firm number 1, 11, 47 and 48 are in the medium-low Performance Index and medium-low Collaboration Competency quadrant and two firms, i.e. firm number 3 and 40 are in the low Performance Index and medium-low Collaboration Competency quadrant (Refer to Table 6).

Keeping in view the stature of the firms in J&K and the geopolitical situation, agro-food processing firms need to collaborate. There are few firms such as M/s Sarveshwar Overseas, M/s FIL Industries, M/s Henna- Agro, etc., which are collaborating with the different research and academic institutes for resource sharing and collaborative activities. In the state of Jammu and Kashmir, the collaboration competency is a much-underestimated factor among the agro-food processing firms, which may be because most of the surveyed firms are traditionally managed, and family-owned businesses as well most of the entrepreneurs are first-generation entrepreneurs. Further, the poor strategic orientation, conservatism in business operations with limited motivation and enthusiasm towards managing growing competition and running business operations in a conflict-driven economy, the agro-food processing units of J&K are facing multiple challenges in their day to day activities. This pushes them towards running the business with serendipity rather than proper planning and management, which in the shorter run makes them earn profits but in the longer run jeopardises their survival and growth. The current study has implications for the entrepreneurs, policymakers, and researchers in terms of understanding the competitive performance and collaboration competence of the surveyed firms as well as explaining the impact of the collaboration competency on the competitive performance of a firm. The study also describes the relative positioning of each surveyed firm on the two constructed indices, therefore, helping each firm in understanding their position on each index viz-a-viz other competing firms. Thus, it helps each firm to understand the area of intervention in improving their competitive performance. For policymakers, the study can help define certain policies for both firms (industry) and academic/research institutes through which the interaction and collaboration between industry (firms) and institutes can be built and strengthened. The study can also be beneficial for drafting industry-specific policies promoting the planned growth and development of the agro-food processing industry in the state of J&K.

5. Conclusion

The study describes the relationship between competitive performance and collaboration among small and medium enterprises. The study also explains the impact of the collaboration competency on the competing performance of the studied agro-food-based manufacturing small and medium enterprises of J&K state. The study signifies the importance of collaboration competency in the firms facing resource constraints, especially firms operational at the regional levels. The study is also significant for describing the performance of the firms located in conflict-driven economies and where consistent data regarding various qualitative parameters are lacking. The agro-food processing-based SME of J&K with geopolitical disturbance and limited industrial exposures is facing multiple challenges and survival issues. Due to which the state of J&K has failed in creating a niche for its agro-food processing business in the agro-food processing industry of India, which is a sunrise industry of India. The state of J&K enjoys an excellent agriculture and horticulture resource base and offers numerous business and trade opportunities in the agro-food processing segment. The present study offers beneficial insights towards infusing strategic orientation for the growth and development of the processing industry in the state of J&K. The study provides the basis for an efficient thinking perspective that can be advantageous for the managers, entrepreneurs and policymakers in reengineering their outlook towards processing industries in the constrained and hill economies. For agro-food processing entrepreneurs, the study can be

beneficial in understanding the significance and role of collaboration competence concerning developing competitive performance in a firm, and for policymakers, the study offers insightful cues for planning interventions towards the long-term growth of the industry in the state of J&K through resource sharing mechanism. However, the current study has certain limitations in terms of the limited sample size and cross-sectional nature of the study. Therefore, generalisations of the results for the other types of industries operating in different geopolitical environment needs to be done cautiously. The future scope of the study is to expand the present study in other industries at the regional and national level and understand the collaboration competence and its influence in a broader perspective.

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Key Indicators of Corporate Financial Status: Empirical Evidence from Indian Industrial Sector

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Abstract

The present pandemic situation has led to the rise in the number of financially distressed companies in the Indian business ecosystem. Stakeholders, especially shareholders, unsecured and trade creditors who do not enjoy lien on company assets, should be extra cautious about the financial status of a company before making any investment or lending decision. The present study attempts to suggest the key indicators of corporate financial status after analysing 12 ratios from the financial statements of 162 sample companies for five financial years. The suggested key indicators can assist the shareholders and creditors in differentiating a financially distressed company from a financially sound company in the Indian industrial sector.

Key words: *Bankruptcy, Financial Distress, Financial Status, IBC, India, Key Indicators, Financial Ratios*

1. Introduction

By the end of December 2019, Wuhan, Municipal Health Commission of China, reported a cluster of cases of pneumonia in Wuhan, Hubei Province. A novel coronavirus was eventually identified (Song & Zhou, 2020). On March 11, 2020, the WHO director, in his media meeting, announced that WHO has assessed Covid 19 as a pandemic (World Health Organisation, 2020). According to the World Health Organisation (2021), globally, there have been 265,194,191 confirmed cases of COVID 19 and 5,254,116 deaths reported in early December 2021. This pandemic has impacted most aspects of human life across the world. The spread of infection at an alarming rate has brought the economic activities to a near-standstill as tight restrictions on movement was imposed by countries to halt the spread of the infection. As a result, a 5.2 per cent contraction in the global GDP is forecasted by the World Bank and the worst global recession since World War II is expected (The Print, 2020).

In response to the widespread pandemic, the Government of India ordered a nationwide lockdown on March 24, 2020, and the lockdown restrictions were lifted on May 30, 2020. But disruption in the economic activities continued even after the lockdown was lifted. Along with a decline in demand for goods and services, the supply chain was also disturbed as the focus was to meet the surge in the demand and supply of essential products and services. Therefore, the demand for non-essential products and services declined (Kumar et al., 2020). This adversely impacted the economic activities in the nation. A study conducted to assess the industrial impact of COVID 19 in an optimistic and pessimistic scenario concluded that the mining sector would be the worst hit, followed by manufacturing, construction, trade, hotels, transport and financial services. The manufacturing sector is expected to contract between 5.5– 20 percent, depending on the scenario. In the manufacturing sector, some of the most affected industries are likely to be metals and chemical products, motor vehicles, machinery and equipment, textiles, etc. (Sahoo & Ashwani, 2020).

The Indian economy was already shrinking before the pandemic. According to the World Bank report, GDP growth declined to 5.024 percent in 2019 from 8.256 in 2016, the lowest since 2008. Since 2016, the number of companies turning insolvent and filing for bankruptcy under the Insolvency and Bankruptcy Code (IBC) has been on the rise. According to a report by the Insolvency and Bankruptcy Board of India (2020), from the date of inception of the new bankruptcy law, in 2016 up to March 2020, a total of 3774 bankruptcy filings were made with National Company Law Tribunal (NCLT). A vast majority of the filings were made under the manufacturing sector, followed by real estate, construction, wholesale and retail trade, hotels and restaurants, electricity and others, transport, storage and communication. Of these, manufacturing, construction, and electricity belong to the industrial sector, thus hinting that firms with industrial nature are exposed to high insolvency risk. By passing the Insolvency and Bankruptcy Code Ordinance of 2020, the Government of India suspended the initiation of insolvency and resolution proceedings on or after March 25, 2020 for six months initially which was further suspended for another three months (Ministry of Law and Justice, 2020). This step was taken by the government to save viable firms from being sold at pandemic led low-valuations. But, in an attempt to save viable firms, unviable firms also continue to operate in the business environment during this period (Mint, 2020). Thus, with the suspension of IBC and COVID-19 induced economic disruption led insolvencies at a rise, the Indian business environment is expected to see a surge in the number of financially distressed companies. Shareholders and creditors, especially unsecured and trade creditors, should remain vigilant about their investments and lendings during this period.

The purpose of the present paper is to identify the key indicators of corporate financial distress in the Indian industrial sector that will help the stakeholders, especially shareholders, unsecured and trade creditors, distinguish a distressed company from a financially sound company with ease. For this, 12 essential ratios of 62 financially distressed companies that have defaulted on credit and filed for bankruptcy under IBC is compared with an equal number of matching financially sound companies for five years immediately preceding the filing for bankruptcy under IBC. The comparison will result in the discovery of the key indicators of corporate financial distress. These key indicators can guide the shareholders and creditors in cautiously choosing their investment and lending avenues.

2. Review of Literature

Financial ratios have always played a significant role in predicting the financial status of a business. The use of financial ratios in financial distress prediction goes back to

the 1960s when Beaver (1966) used individual financial ratios to evaluate the creditworthiness of a business. Following Beaver, many researchers used multivariate analytical tools to develop models to classify financially distressed companies from non-distressed companies, and financial ratios formed the basis for these models. Such studies were popularly called default prediction models or bankruptcy prediction models, or financial distress prediction models. This section of the paper discusses the financial ratios that have played a significant role in predicting corporate financial status in the past across the globe. The significant ratios thus identified provide an impetus for the current study.

Profitability, liquidity, leverage, efficiency and cash flow are the most frequently used measures for determining the financial soundness of a company. Obradovic et al. (2018) initiated the study with 25 ratios comprising of liquidity, leverage, activity, economy, profitability, and others. Previously Desai and Joshi (2015), Georgeta and Georgia (2012), Rashid and Abbas (2011), Kim and Gu (2010), Sandin and Porporato (2007), Altman and Sabato (2005), and McGurr and Devaney (1998) in their respective studies also mostly considered these areas of financial performance while choosing the predictor variables. However, Pervan et al. (2011), besides the generally used broad areas of financial ratios, also considered cashflow in selecting the predictors of financial distress. In developing a corporate distress prediction model for India, Singh and Mishra (2016) used return on assets to formulate a bankruptcy prediction model, and Bandyopadhyay (2006) have used the operating profit ratio in developing a credit default prediction model. Both the profitability ratios have proved to have a statistically significant negative association with the event of financial distress in the respective studies. These results have led to the formulation of the following hypothesis.

H_1: There is a statistically significant negative association between Return on Assets and corporate financial status.

H_2: There is a statistically significant negative association between Operating Profit Ratio and corporate financial status.

The current ratio and quick ratio are the most widely used liquidity ratios in literature. Senapati and Ghosal (2016) used the current ratio to predict company bankruptcy in India, and Waqas and Md-Rus (2018) identified the quick ratio as a significant predictor of financial distress for Pakistani firms. Both the liquidity ratios have shown a significant negative association with the probability of occurrence of financial distress. Therefore,

H_3: There is a statistically significant negative association between the Current Ratio and corporate financial status.

H_4: There is a statistically significant negative association between Quick Ratio and corporate financial status.

Debt to total assets ratio and interest coverage ratio are the two measures of leverage revealed while reviewing the literature. Shetty et al. (2012) has established a positive association of debt to total assets ratio with the event of bankruptcy in IT/ITES companies in India, and Datta (2013), while determining industrial sickness in India, considered interest coverage ratio as an independent variable and found it to be inversely associated with industrial sickness. Thus,

H_5: There is a statistically significant positive association between debt to total assets ratio and corporate financial status.

H_6: There is a statistically significant negative association between interest coverage ratio and corporate financial status.

Total asset turnover ratio and sales to working capital ratio are the measures of efficiency used by Rashid and Abbas (2011) and Obradovic et al. (2018). Rashid and Abbas (2011) established that the total asset turnover ratio is negatively significant in predicting bankruptcy in Pakistan. On the other hand, Obradovic et al. (2018) found the sales to working capital ratio to be positive and significantly associated with corporate financial status in Turkey. Hence,

H_7: There is a statistically significant negative association between the total asset turnover ratio and corporate financial status.

H_8: There is a statistically significant positive association between sales to working capital ratio and corporate financial status.

In recent years, cashflow ratios have also formed a significant part of corporate default prediction. Obradovic et al. (2018) and Waqas and Md-Rus (2018), in their respective study, identified cash flow to sales ratio and cash flow to total assets ratio, respectively, to be negatively associated with the probability of default. Therefore,

H_9: There is a statistically significant negative association between cash flow to sales ratio and corporate financial status.

H_{10}: There is a statistically significant negative association between cash flow to total assets ratio and corporate financial status.

The review of the literature also reveals the use of a range of non-financial measures in predicting financial distress. A study undertaken by Daily and Dalton (1994) throws light on the association between Corporate Governance measures and the event of bankruptcy in a company. A similar study conducted by Elloumi and Gueyie (2001) also examined the association between corporate governance characteristics and financial distress by controlling financial measures indicating liquidity and leverage. Udin et al. (2016) explore ownership structure proxies on the likelihood of a firm's financial distress. The association of institutional ownership, insider ownership, foreign ownership, and government ownership with the likelihood of financial distress was tested along with financial parameters. The study concludes that insider ownership has a significant positive association with the probability of financial distress. Thus,

H_{11}: There is a statistically significant association between the proportion of independent directors on the board and corporate financial status.

H_{12}: There is a statistically significant association between promoters share in the ownership structure and corporate financial status.

2.1 Research Gap

Past studies have made extensive research on corporate financial distress prediction, which includes developing new models using sophisticated tools or validating previously developed models in a different economic condition or for a different period. No existing literature has attempted to investigate the characteristics of financially distressed companies that can distinguish a distressed company from a financially sound company with ease. To address this gap, the present study compares the financial and non-financial measures of the two groups of companies individually to identify the key indicators of corporate financial status.

2.2. Research Question and Objective

The study is undertaken with the research question: Which measures reported in the financial statement significantly differentiates financially distressed companies from financially sound companies?

The objective of the research is to analyse the financial and non-financial measures of financially distressed companies and compare them with their matching financially sound companies to derive the key indicators of corporate financial status in the Indian industrial sector.

3. Research Methodology

3.1 Samples

Financially distressed and financially sound companies constitute the sample for the study. Companies that have filed for bankruptcy under IBC are classified as financially distressed companies. From the date of inception of IBC in 2016 up to March 31 2019, a total of 602 public sector corporations have filed for bankruptcy under IBC, and 484 companies are classified as industrial among the 602 public sector companies. The National Industrial Classification (NIC) – 2008 is considered for the industrial classification of companies. Only 163 of the 484 public companies are listed either with National Stock Exchange (NSE) or Bombay Stock Exchange (BSE). Of the 163 publicly traded industrial companies, the required data is completely available only for 82 companies. Thus, these 82 companies constitute the financially distressed companies in the sample. Every financially distressed company is paired with a similar company that has not filed for bankruptcy which is termed as financially sound companies in the study. The pairing of financially distressed companies with financially sound companies is based on industry type and asset size. Therefore, the total sample size is 164, comprising 82 distressed and 82 financially sound companies. The total sample is further classified as a training and testing sample. The training sample is used to identify the key indicators, and the testing sample facilitates the validation of the key indicators.

3.2 Variables

The study observes the association between the various measures reported in the financial statement and the financial status of a company. The independent variable is the Financial Status (FS), which can take the value 1 or 0, which respectively indicates financially distressed and financially sound. Financial and non-financial ratios extracted from the company financial statement constitute the dependent variables in the study. Ten financial ratios representing liquidity, profitability, leverage, efficiency, and cash flows and two non-financial ratios representing board independence and ownership structure are the dependent variables. Table 1 describes the variables of this study.

Table 1: Variables of the study

Nature	Variable	Code
Dependent	Financial Status (Financially distressed = 1, Financially sound = 0)	FS
Independent	Return on Assets	ROA
	Operating Profits Ratio	OPR
	Current Ratio	CR
	Quick Ratio	QR
	Debt to Total Assets Ratio	DTAR
	Interest Coverage Ratio	ICR
	Total Asset Turnover Ratio	TATR
	Sales to Working Capital Ratio	SWCR
	Net Operating Cashflow to Sales Ratio	NOCSR
	Net Operating Cashflow to Total Assets Ratio	NOCTAR

Source: Compiled by authors

3.3. Data and statistical tool for analysis

Secondary data forms the basis for the study. The required data is collected from the corporate database Ace Analyzer for the period of five years immediately preceding the year of the bankruptcy filing. Thus, a balanced panel of data is used to arrive at the key indicators of financial distress in the Indian industrial sector. The independent variable FS is binary and is invariant across time for each of the binary categories. Thus, the application of Fixed Effects (FE) is redundant, and therefore, the Random Effects model (RE) is used. The dummy variables regression model is employed for determining the key indicators of financial distress in the industrial sector. The baseline model is:

$$y = \beta_0 + \beta_1 x_{it} + \varepsilon_{it}$$

Originally, in a regression model, β_1 represents a slope indicating the change in the dependent variable for a unit change in the independent variable. In the present study, the independent variable FS is a dummy variable. What does β_1 represent in a dummy variables model? β_1 indicates the change in the dependent variable (ratios) when the FS of a company changes from financially distressed to financially sound or vice versa.

Under this model, the expected value of ratios for a financially distressed company is:

E (Value of dependent variable of distressed company = 1) = $\beta_0 + \beta_1 * 1 = \beta_0 + \beta_1$

And the expected value of ratios for a financially sound company is:

E (Value of dependent variable for non-distressed company = 0) = $\beta_0 + \beta_1 * 0 = \beta_0$

The following models are formulated to determine the key indicators of corporate financial distress and the expected value of the key indicators for the two groups of companies.

$$ROA_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (1)$$

$$OPR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (2)$$

$$CR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (3)$$

$$QR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (4)$$

$$DTAR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (5)$$

$$ICR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (6)$$

$$TATR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (7)$$

$$SWCR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (8)$$

$$NOCSR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (9)$$

$$NOCTAR_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (10)$$

$$PIP_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (11)$$

$$PPS_{it} = \beta_0 + \beta_1 FS_{it} + \varepsilon_{it} \quad (12)$$

4. Empirical Results

The descriptive statistics of all the dependent variables are presented in Table 2. From the table, it is evident that excepting NOCSR, the mean ratios of financially sound companies are higher than financially distressed companies. High NOCSR among the financially distressed group is due to a single sample company with extremely poor sales but very high cashflows for the two years immediately preceding the bankruptcy filing. In spite of very low sales, high cashflows is the result of adjustments made in non-cash items and the changes in operating assets. Thus, the NOCSR of this company under discussion is very high at 7170, as indicated under the maximum value of the ratio. Further, analysis of standard deviation reveals greater variability in profitability, cashflow and non-financial ratios among financially distressed companies relative to its counterpart. However, liquidity, leverage and cash flow ratios have relatively greater fluctuations amongst the financially sound companies

Table 3 presents a summary of the dummy variables model developed for each ratio under study. Amongst the ratios considered, eight ratios have emerged to be statistically significant in differentiating a financially distressed company from a financially sound company at a 5 percent level of significance. They are ROA, CR, QR, DTAR, TATR, SWCR, NOCTAR and PPS. Positive β_1 for DTAR indicates a direct association of the ratio with financial distress. In other words, the greater the ratio higher the risk of financial distress and vice versa. On the other hand, the other significant ratios ROA, CR, QR, TATR, SWCR, NOCTAR and PPS, have a negative β_1 suggesting an inverse relationship of the ratios with the event of financial distress, i.e., an increase in the ratio lowers the risk of experiencing distress and vice versa.

As discussed, the expected value of each significant measure for a financially distressed company is the aggregate of β_0 and β_1, and for the financially sound company is equivalent to β_0. The expected value of the significant measure for the two groups of companies is presented in Table 3. The table also displays the upper and lower limits of the confidence interval for financially sound companies (β_0) at a 95 percent level of confidence. These limits indicate the range within which the ratios of financially sound companies are likely to fall. Thus, the class limits presented in the table can be a good source of direction to the stakeholders in identifying financially sound companies at the time of making investment and lending decisions.

Table 2: Descriptive Statistics of Variables

		Non-Defaulting				Defaulting			
Variable	Obs	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
ROA	410	4.278	5.677	-25.298	35.370	-10.570	19.581	-129.950	55.880
OPR	410	0.125	0.152	-0.485	1.107	-9.740	92.322	-1416.000	3.669
CR	410	1.843	2.056	0.349	18.240	0.859	0.557	0.000	5.360
QR	410	1.305	1.786	0.052	14.740	0.549	0.389	0.000	2.800
DTAR	410	0.835	5.149	-38.244	51.179	0.727	0.675	0.000	8.692
ICR	410	30.594	275.496	-289.765	5273.411	-9.628	65.321	-699.840	90.985
TATR	410	1.135	0.849	0.067	7.460	0.691	0.704	0.000	4.328
SWCR	410	15.601	106.100	-371.966	1356.799	1.736	26.873	-141.258	355.015
NOCSR	410	0.104	0.279	-0.747	4.713	18.666	355.458	-198.379	7170.000
NOCTAR	410	0.078	0.102	-0.200	1.222	0.027	0.110	-0.592	0.790
PID	410	0.508	0.091	0.000	0.727	0.505	0.161	0.000	1.000
PPS	410	0.593	0.173	0.000	1.000	0.495	0.182	0.000	0.990

Source: Computed by the authors

Table 3: Random Effects Regression Model Results Summary

					95% Confidence Interval	
Variable	β1	β0	β0+β1	p value	Upper	Lower
ROA	-14.14182	3.85897	-10.28285	0	1.421408	6.296532
OPR	-8.667558	0.1097698	-8.5577882	0.217	-9.618919	9.838459
CR	-1.11138	1.976117	0.864737	0	1.581854	2.370379
QR	-0.8739867	1.41408	0.5400933	0	1.078574	1.749586
DTAR	0.5890471	0.1430598	0.7321069	0.014	-0.188911	0.4750305
ICR	-40.19116	32.99361	-7.19755	0.068	2.445545	63.54168
TATR	-0.4545233	1.179147	0.7246237	0.002	0.9751751	1.383118
SWCR	-18.78029	21.33416	2.55387	0.041	8.617704	34.05061
NOCSR	26.02957	0.0949487	26.1245187	0.315	-35.83155	36.02144
NOCTAR	-0.0451302	0.0762122	0.031082	0	0.0587694	0.093655
PID	-0.0018238	0.5028178	0.500994	0.914	0.4793678	0.5262678
PPS	-0.0879	0.5842793	0.4963793	0.007	0.5392506	0.6293081

Source: Computed by the authors

4.1 Robustness Check

The robustness of the significant measures is tested on the training and testing samples. The range within the upper and lower class limits of each ratio for β_0 forms the basis for determining the financial soundness of a company. That is, companies with the value within the class limits are classified as financially sound, and companies with values outside the class limits are classified as financially distressed. The results of the robustness check are presented in table 4. The table displays the number of accurate predictions made by each significant measure and the number of type I and type II errors associated with it. Type I error represents the number of financially distressed companies incorrectly predicted as financially sound, and Type II error is the percentage of financially sound companies incorrectly predicted as financially distressed by the significant measures. For the training data, the percentage of prediction accuracy ranges between 76 percent to 56 percent, type I error ranges between 10 percent to nearly 2 percent and type II error ranges between 43 percent to 14 percent. The class limits are considered as the classification criteria with the aim to minimise the type I error. It is generally agreed upon that type I errors are more costly than type II errors when predicting the financial soundness of the business (Gissel et al., 2007). Therefore, the objective is to minimise the type I error and thus, the ratios with the minimum type I error is considered as the key indicators of the financial status of a company. Accordingly, though ROA has made the most number of accurate predictions and has the least number of type II errors, CR is more potent in safeguarding the interest of the stakeholders as it has the minimum type I error for training data. Similarly, for the testing sample, ROA has made the maximum number of accurate classifications with the least number of type II errors. However, the type I error is least with SWCR followed by CR. Besides CR, QR has also resulted in a lesser number of type 1 errors for both the training and testing samples. The percentage of type I error for CR and QR for both training and testing samples is less than 5 percent thus, making liquidity the most reliable key indicator of the financial soundness of a company.

Table 4: Results of Robustness Test

Key Indicators	Obs	Accuracy (Nos)	Type I Error (Nos)	Type II Error (Nos)	Obs	Accuracy (Nos)	Type I Error (Nos)	Type II Error (Nos)
ROA	600	453	59	88	220	147	14	59
CR	600	333	9	258	220	121	8	91
QR	600	336	22	242	220	124	10	86
DTAR	600	434	85	81	220	130	35	55
TATR	600	354	32	214	220	121	20	79
SWCR	600	318	36	246	220	115	7	98
NOCTAR	600	330	34	236	220	116	14	90
PPS	600	313	51	236	220	112	29	79

Source: Computed by the authors

5. Discussion

According to the study results, eight ratios have emerged as statistically significant in predicting corporate financial status. The significant ratios consist of representation from all the six-broad areas of classification of ratios; thus, implying that profitability, liquidity, leverage, efficiency, cashflow and also non-financial measures are all independently powerful in predicting the financial status of a company. According to the present study, profitability ratio ROA has a statistically significant negative association with the event of financial distress, which is in agreement with the study by Singh and Mishra (2016). Similarly, the present study is also in accord with Senapati and Ghosal (2016) and Waqas and Md-Rus (2018), whose research concludes that liquidity ratios CR and QR are negatively associated with the financial status of a company. Likewise, leverage ratio DTAR and cashflow ratio SWCR has also proved to have an inverse relationship with the financial status of the company as suggested by Obradovic et al. (2018) and Waqas and Md-Rus (2018), respectively. Further, as suggested by Shetty et al. (2012), the present study also confirms a statistically significant positive association of DTAR with the financial status of a company indicating higher the DTAR, the greater the risk of experiencing corporate financial distress and vice versa. The results also support the study by Udin et al. (2016) and conclude that insider or promoter ownership have a statistically significant association with the financial status of a company. However, contrary to the findings by Obradovic et al. (2018) negative association of SWCR with the financial status is observed in the current research. Apart from the contrary result of SWCR, variables like OPR, ICR, NOCSR and PID have indicated a statistically insignificant association with corporate financial status in the Indian industrial sector.

6. Conclusion

IBC, the law that governs insolvency and bankruptcy in India, is based on three objectives. The first order objective of IBC is resolution. The second-order objective of the code is the maximisation of the value of the firm, and the third-order objective is to promote entrepreneurship, credit availability and balance the interest of stakeholders. In the process of attaining these objectives, viable firms are rescued, and unviable firms are liquidated (Sahoo, 2020). In the case of liquidation, bankruptcy laws establish a system of priority to settle the claims of different claimants or stakeholders known as the "Absolute Priority Rule" (APR). According to this system, the system generally starts with the government's tax and social security claims, followed by unpaid wages of employees, the claims of secured creditors with a lien on physical assets, unsecured creditors or bondholders, trade creditors, and finally, the firm's shareholders (Hashi, 1997). The unsecured creditors, trade creditors and shareholders do not have a lien on the physical assets of the financially distressed company that is due for liquidation. Thus, they fall at the bottom of the priority pyramid, and any amount will be paid only after meeting the claims of the other parties who form the top of the priority pyramid. Therefore, the parties at the bottom of the pyramid

have to be alert in the choice of lending and investment avenues, especially in times of COVID-19 when the number of financially distressed companies in the market is on the rise.

The current study examined 12 measures from the corporate financial statements, comprising of both financial and non-financial nature, to identify the key indicators of corporate financial distress. Following the analysis, eight measures, namely ROA, CR, QR, DTAR, TATR, SWCR, CFTAR and PPS emerged as statistically significant in indicating corporate financial distress. However, amongst these significant measures, the liquidity ratios CR and QR have consistently succeeded in identifying financially distressed companies with the least type I error. Thus, CR and QR qualify as the key indicators of corporate financial status in the Indian industrial sector. A low CR and QR is an indicator of the high risk of financial distress. On the other hand, though high CR and QR means short-term solvency, it also indicated inefficient utilisation of assets. According to Table 3, companies with a CR ranging between 1.581854 to 2.370379 and QR ranging between 1.078574 to 1.749586 can be classified as financially sound otherwise, financially distressed. However, the results of the present study are limited to only the industrial sector in India. In future, researchers can extend the study to explore the key indicators of corporate financial status for the service sector. There is also a huge scope for research in exploring industry-specific key indicators that can guide the investors and lenders in learning about the financial status of a company with ease.

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Annexure 1: List of sample companies

Financially Distressed Companies	Financially Sound Companies
Nicco Corporation Ltd	Precision Wires India Ltd
National Steel & Agro Industries Ltd	Jai Corp Ltd
Lanco Infratech Ltd	Larsen & Turbo Ltd
Rei Agro Ltd	Hatsun Agro Products Ltd
Facor Steel Ltd	Prakash Industries Ltd
MBL Infrastructure Ltd	Patel Engineering Ltd
Innoventive Industries Ltd	Minda Industries Ltd
U B Engineering Ltd	Kabra Extrusiontechnik Ltd
Era Infra Engineering Ltd	Sadbhav Engineering Ltd
Jyoti Structures Ltd	PTC India Ltd
INOX Wind Ltd	Gujarat Industries Power Co Ltd
Meyer Apparel Ltd	Spenta International Ltd
Uttam Galva Steel Ltd	Maharashtra Seamless Ltd
Hindustan Dorr Oliver Ltd	OM Infraprojects Ltd
Kalyanpur Cements Ltd	Sahyadri Industries Ltd
Unity Infra Projects Limited	PNC Infratech Ltd
Ferro Alloys Corporation Ltd	Maithan Alloys Ltd
Alok Industries Ltd	Welspun India Ltd
Monnet Ispat Energy Ltd	NMDC Ltd
Electrosteel Steels Ltd	Jindal Stainless Ltd
Amit Spinning Indstries Ltd	Salona Cotspin Ltd
Adhunik Metalliks Ltd	KIOCL Ltd
Jenson & Nicholsan [India] Ltd	Hardcastle and Waud Manufacturing Company Ltd
Jaypee Infratech Ltd	GMR infra Ltd
Shriram EPC	ISGEC Heavy Engineering Ltd
Orchid Pharma Ltd	IPCA Laboratories Ltd
Ang Industries Ltd	RACL Geartech Ltd
SAL Steel Ltd	Kamdhenu Ltd
Rainbow Papers Ltd	West coast paper mills ltd
Supreme Tex Mart Ltd	Vishal Fabrics Ltd
Gayatri Projects Ltd	Welspun Enterprises Ltd
Easun Reyrolle Ltd	Honda Seil Power Products Ltd
Amtek Auto Ltd	Bharat Forge Ltd
Tirupati Inks Ltd	Mysore Petro Chemicals Ltd
Eastern Gases Ltd	Confidence Petroleum India Ltd
Impex Ferro Tec Ltd	20 Microns Ltd
Abhishek Corporation Ltd	Amarjothi Spinning Mills Ltd
Gujarat Foils Ltd	PG Foils Ltd
Metalyst Forgins Ltd	AIA Engineering Ltd
Ruchi Soya Industries Ltd	Gokul Agro Resources Ltd
Vimal Oils & Foods Ltd	AVT Natural Products Ltd
Kothari Industrial Corporation Ltd	Shiva Global Agro Industries Ltd
Rubber Products Ltd	MM Rubber company Ltd
Surana Industries Ltd	Kalyani Steels Ltd

Ankit Metal & Power Ltd
Indus Fila Ltd
MIC Electronics Ltd
Usher Agro Ltd
Diamond Power Infrastructure Ltd
Raj Oil Mills Ltd
Ellora Paper Mills Ltd
Bhushan Steel Ltd
Mandhana Industries Ltd
Assam Co Ltd
Castex Technologies Ltd
SEL Manufacturing Co ltd
Shri Lakshmi Cotsyn Ltd
Sterling Biotech Ltd
Mount Shivalik Industries Ltd
Camson Bio Technologies Ltd
Ess Dee Aluminium Ltd
Marsons Ltd
Bafna Pharmaceuticals Ltd
Parabolic Drugs Ltd
Value Industries Ltd
Rajvir Industries Ltd
Sunil Hitech Engineers Ltd
Madras Fertilizers Ltd
Madhucon Projects Ltd
Empee Distilleries Ltd
Tara Jewells Ltd
B S Ltd
Punj Lloyd Ltd
Jaihind Projects Ltd
Birla Cotsyn [India] Ltd
Khaitan Electricals Ltd
Metkore Alloys & Industries Ltd
Govind Rubber Ltd
Pratibha Industries Ltd
Sezal Glass Ltd
Euro Ceramics Ltd
The Jeypore Sugar Co Ltd

Godawari Power & Ispat Ltd
Lambodhara Textiles Ltd
IMP Powers Ltd
Heritage foods Ltd
KEI Industries Ltd
Kriti Nutrients Ltd
Ganga Papers India Ltd
JSW Steel Ltd
Faze Three Ltd
CCL Products Ltd
GNA Axies Ltd
Bombay Rayon Fashion Ltd
Bombay Dyeing & Manufacturing company Ltd
Torrent Pharmaceuticals Ltd
Winsome Breweries Ltd
Super crop safe Ltd
A M D Industries LTD
Veto Switchgears & Cables Ltd
Hester Biosciences Ltd
Caplin Point Laboratories Ltd
Whirlpool of India Ltd
Deepak Spinners
Kalpataru Power Ltd
Deepak Fertilizers & Petrochemicals Corporation Ltd
Man Infra Costructions Ltd
Globus Spirits Ltd
TribhovandasBhimji Zaveri Ltd
Voltamp T ransformers Ltd
GVK Power & Infrastructure Ltd
BL Kashyap & Sons Ltd
Winsome Textiles Ltd
Hawkins Cooker Ltd
Adhunik Industries Ltd
PTL enterprises Ltd
IRB Infrastructure Developers Ltd
Saint-Gobain Sekurit India Ltd
Orient Bell Ltd
DCM Shriram Industries Ltd

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A Three-Pronged Strategy for Emerging in the Next Normal Ahead

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Abstract

In the era of the transition towards the 'new normal', rapidity and adaptability hold the key to determining the pace of success. It becomes all the more imperative to decide the course of action or approach to be adopted to fast track resilience to competitive advantage for growth. Continuous or lifelong learning has assumed prominence as never before in asserting one's suitability to a changing job landscape. In order to prove top-notch in the job market, there is a need for building up on information technology skills, especially those that seem 'essential' in the new era. These skills are termed as 'new-collar'[1] skills in the modern era. This paper illustrates a field study conducted by the authors to examine how the IT Skills Building ecosystem is evolving, how skills initiatives are contributing to the development of these new-collar skills and, in turn to employability in the IT sector. Indian Skills Building ecosystem was chosen for the purpose of the study with the assumption that since the bulk of the global IT industry is in India, the study can be successfully extrapolated to the rest of the world with necessary local customisation. A survey of 600 graduates of IT/ITeS skills development programs in India was undertaken to get their views on employability skills and what it takes to sustain in the information technology industry. The results point to the impact of essential IT skills in driving employability further, identifying the high impact factors that influence the Skills building ecosystem and the need for focusing on skilling, reskilling, and upskilling in those high impact skills to bring about growth in the new era. Skilling, Reskilling and Upskilling are highlighted as the three-pronged strategy for people worldwide to emerge stronger and prove adept in the new transition post-pandemic.

Keywords: *Evolution of skills, new collar skills, skills building ecosystem, upskilling, reskilling*

[1]*new-collar skills refer to the technical and soft skills needed to work in technology jobs through nontraditional education paths. Some of these job roles include cloud computing, cyber-security and user interface design technicians in AI, IOT, Blockchain and Machine learning. (Cox, 2020)*

1. Introduction

'Unprecedented' would be the term that so well describes the state of affairs the world is plunged into today. It is an analogy that can be extended to health, economy, lifestyle, markets and way beyond into the future of the planet and its people. We might be at a very early stage of this transition into the new normal, but if we could begin today in a most specific way, we could fast track the phase of resilience and emerge stronger with a competitive edge. What is this approach that would need adoption by individuals, organisations, governments and institutions alike? Why has this concept gained prominence across the world, and how could we be effective drivers in engendering this game-changing shift? This study outlines three critical action points that assume importance at this inflection point from a transition perspective. Now that the world has ventured from the blue-collar into the new collar (not just digital)– the first step would be to 'explore' these new-collar skills in demand; the second essentially would be to focus on 'upskilling' or training our workforce population worldwide in these skills and the third 'reskilling' (renewing the existing skills) in these specific skills so as to increase their base rates in population so as to rebound into the future (referred to as the three-pronged strategy). A survey on the perception of employability potential was undertaken on 600 respondents who were graduates of IT skills learning programs in India which served as the basis for the conclusions arrived at in this study (applicable worldwide). The skills ecosystem has a decisive impact on employability in the world today. Skilling, upskilling and reskilling in new collar skills are clustered into four types – applied knowledge, effective relationships and workplace skills (segregated into functional (voice) and functional (non-voice)) that would transform one into one's disruptive potential, where the skills ecosystem would need to be invested into. The study would prove a resounding solution to the epochal challenge the world is now confronting. To critics, the arena of skills remains one of the grey areas yet to be fully explored by organisations and society at large. However, the untapped potential it holds in capacitating development knows no bounds. It is this theme that the study intends to focus upon.

2. Theoretical Background of the Study

The Skills Building ecosystem has been an essential pathway of growth for economies around the world. Its major outcome in promoting employability has been identified as a driving force towards the growth of an economy. Over the years, its infrastructure has been growing, with many diverse streams being embedded into the corpus of existing conventional skills. It encompasses characteristics of the formal education stream as well as the vocational education streams- both having contributed to building employability skillsets in the masses. Information technology has assumed a forefront position among skills and, in a way, a separate domain supporting the employability needs of masses in greater numbers. There has been a continuous evolution in IT skills so as to increase their employability impact. But those critical factors that have over the years orchestrated changes in skills – (conventional skills and new-collar skills) have fundamentally remained resolute. These applied invariable factors, also referred to as impact factors of the Skills Building ecosystem, are Applied Knowledge skills, Effective Relationships and Workplace Skills. The current study revolves around these impact factors and their role in enhancing employability as a means to progress in the new era. For the purpose of the study, the IT Skills Building ecosystem in India is adopted for deeper analysis. The year 2015 was a breakthrough for the Skills Building ecosystem in India. It occasioned a huge wave of integration among the then existing strands of skilling programs under a single nodal body (Ministry of Skill Development and Entrepreneurship). This affected collaboration between different vocational programs with the formal education stream, which till then were two independent and parallelly running pathways of learning. Henceforth, with these changes, there has emerged tremendous improvement in the mode of imparting skills with the objective of enhanced employability.

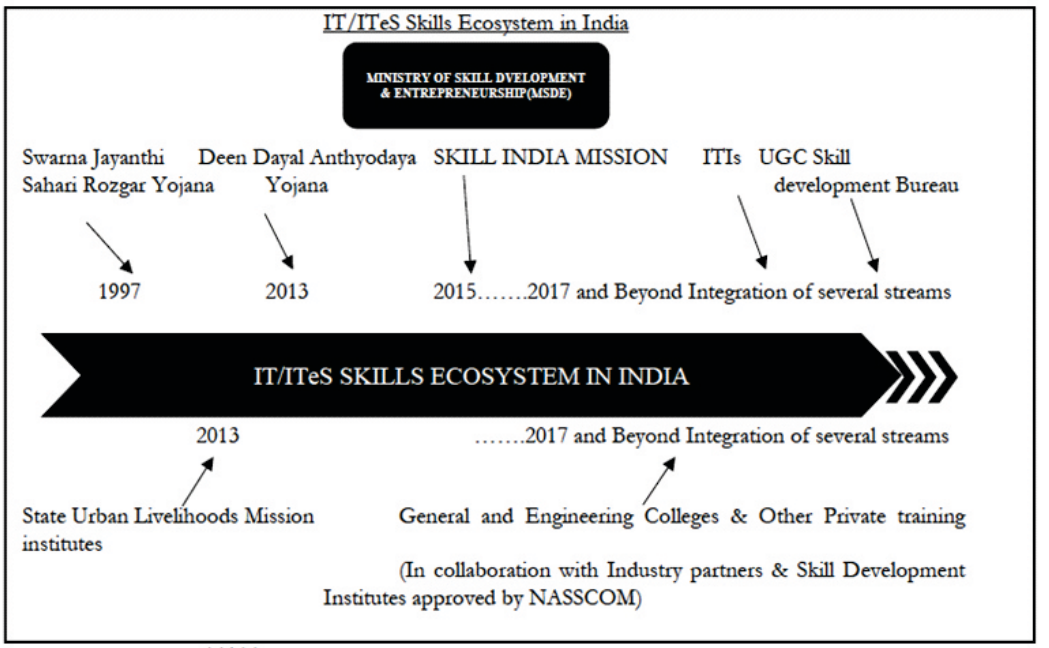

Figure 1: IT Skills Building ecosystem in India

Source: Self-prepared from data obtained from India's National Skills Development Corporation Official website

3. Literature Review

3.1 Skills and their Impact upon Growth

Policymakers and strategists would vouch for greater investment in education and skills owing to the direct impact it has upon the growth of economies. Global growth as estimated by International Monetary Fund sourced data shows a dip in GDP for 2020 and pick up from there. (Industry Surveys, 2020) – refer Figure 2 below.

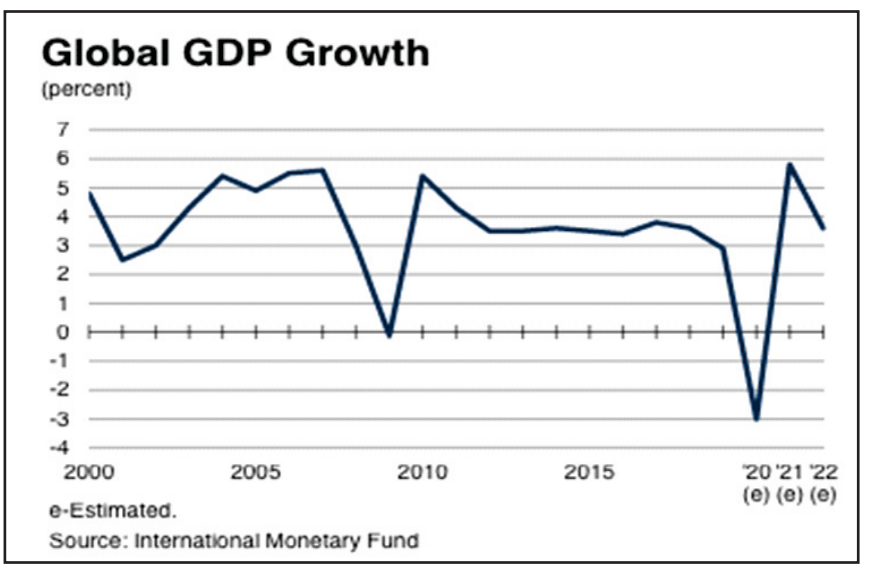

Figure 2: Global GDP Growth trend from 2000

Source: www.cfraresearch.com & web source of International Monetary Fund

To deal with the challenges of rising global competition, the European Union has set itself goals with respect to formal training and informal learning in the workplace to 'acquire and develop new skills throughout the lifetime of individuals and increase their productivity (European Commission 2010:16).

As for those of us in the era of rapid digital transformation, the concept of 'New Collar Skills' has assumed greater recognition as those foundational skills that corporations look forward to in their employees. In the United Kingdom, Eynon and Helsper (2010) have deliberated on the different levels of skills that have given rise to the classification of technical, social, critical, and creative skill types. Across the world, the most important problem leading companies face is -where to find engineers, computer programmers, e-business professionals, financial analysts, or, for that matter, anyone with the capacity to customise new skills as required by a changing market. In order to identify one's worth in the market, what matters the most today is foundational skills. (McLaughlin, 1995) These are generic traits that include the ability to communicate, think and learn throughout life. These so-called employability skills (McLaughlin, 1995) are oriented in theoretical understanding and in directing one to think out of the box (using the fundamental or core principles). They are competencies applicable to a wide range of job roles, are considered essential in determining the success of employees on their jobs and in securing future jobs (Paulson K, 2001). In other words, it invokes innovative potential (Kline & Rosenberg, 2010) in a prospective employee, making him flexible and adaptive to change, thus increasing his employability. Here industry and skill development institutions are posed with the challenge of identifying, incorporating and promoting those skills which trigger disruptive potential (Vaughan-Williams & Stevens, 2016) in employees.

3.2 The Evolution of Skills

To begin with creating a hierarchy of skills, we would need to start with enlisting the basic career readiness skills that students graduating from colleges obtain. The American Institute of Researchers has come up with a common framework for employability skills that comprise Applied Knowledge, Effective Relationships and Workplace Skills. (Refer Figure 3) This framework has been inculcated and customised to further expound on the direction that Skill Building Facilitators would need to emphasise upon.

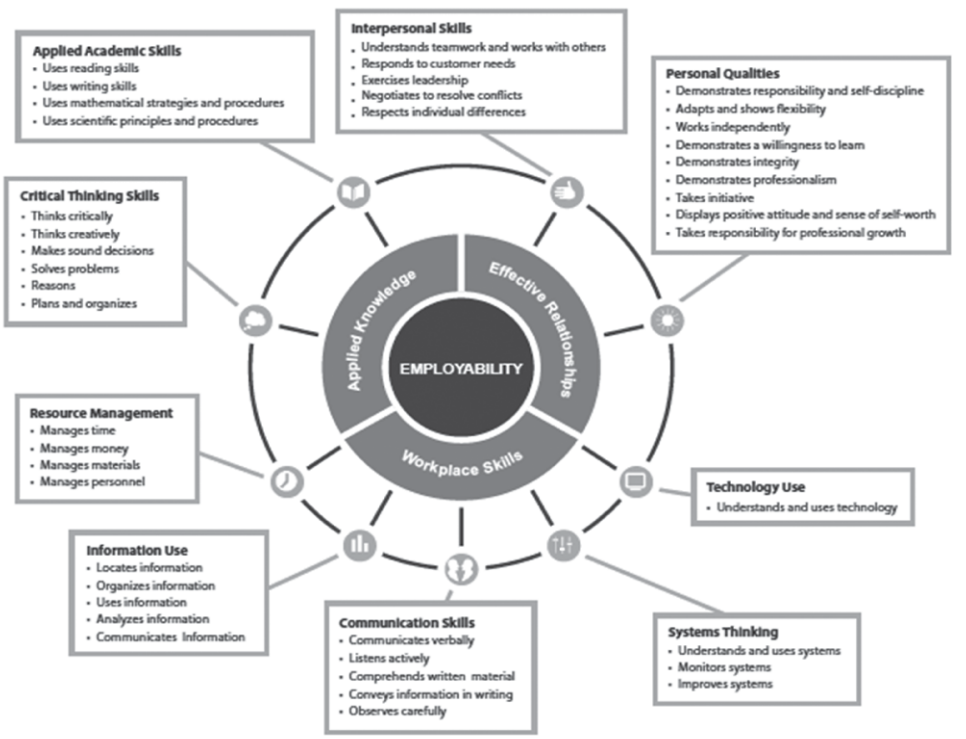

Figure 3: Employability Skill

Source: http://cte.ed.gov/employabilityskills(AIR, 2016)

With the shift from Physical (Industrial Revolution 1) to the Digital (Industrial Revolution 3&4), newer skills gained ground and were added to this list. These included Information Literacy (Aharony & Bronstein, 2013), Adaptability (Alozie et al., 2012), Creativity & innovation (Ahonen & Kinnunen, 2015), Critical Thinking (Boyaci & Atalay, 2016), Persistence (DiCerbo, 2014), Citizenship & Cultural Awareness (Ahonen & Kinnunen, 2015), Lifelong Learning (Ahonen & Kinnunen, 2015), Self-Directed and Strategy connected skills (Choy et al., 2016), Outcome Based, Growth Mindset, Real-time Embedded, Community Compounding – Agile (Gartner, 2020). The table below (Table 1) touch base on some of these critical skills of the new era.

Table 1: Skills and their Definitions- An overview from the literature on skills

Skill Dimension	Operational Definition	Reference
Information Literacy	The ability to search for, assess, organise and use information in order to learn, problem-solve, make decisions - in all possible contexts.	Aharony and Bronstein (2013); Eisenberg (2011)
Adaptability	The ability to fine-tune to change based on the external environment, decode needs, refine and reinvent to remodel oneself to sustain.	Alozie, Grueber, and Derezki (2012); Anderman et al. (2012)
Creativity & Innovation	The ability to come up with novel ideas and capability to implement these ideas to bring in change to set a new model.	Ahonen and Kinnunen (2015); Barbot, Besancot and Lubart (2015); Boyaci and Atalay (2016); Cobo (2013); Donovan, Green, and Mason (2014)
Critical Thinking	Ability to analyse, synthesise and evaluate	Ahonen and Kinnunen (2015); Boyaci and Atalay (2016); Chai et al. (2015); Cobo (2013); De Bie, Wilhelm, and Van der Meij (2015); Donovan, Green, and Mason (2014); Dwyer, Hogan, and Stewart (2014)
Persistence	Ability of continuing or existing or tenacity	DiCerbo (2014)
Citizenship & Cultural Awareness	Political or social entitlement and ability to explain culturally induced behaviour	Ahonen and Kinnunen (2015)
Lifelong Learning	Ability to take up continual learning, be motivated to continue education throughout life.	Ahonen and Kinnunen (2015)
Self-directed & Strategy Connected	Process of managing learning process in accordance with one's needs is self-directed learning	Alozie, Grueber, and Derezki (2012); Anderman et al. (2012); Chai et al. (2015); Choi, Lee, Shin, Kim, and Krajcik (2011); Choy et al. (2016); Cobo (2013)
Outcome-based, Growth mindset, real-time embedded, community compounding – Agile	Learning where outcomes are explicit, feedback is both corrective and adaptive, and flexibility is the driver	Dweck, C. (2016)

Source: Prepared by Authors

Organisations and societies are reimagining functions and tasks for the next normal. Physical distancing and virtual connectivity have spun a change in the behavioural fabric, thereby impacting demands, concerns and outcomes for various stakeholders. It is in this context that new collar skills have assumed importance among corporates worldwide (Cox, 2020).

3.3 The New-collar Skills

Introduced by IBM in 2016, this term refers to those skillsets required for job roles of the new era (Cox, 2020). The incumbents are to possess a combination of technical as well as soft skills. The roles enlisted were initially those in data science, cloud computing and artificial intelligence, which demanded expertise in domain-oriented skills coupled with adaptability, agility and a growth mindset. In a way, the term encourages intrapreneurship in people, a concept that enables freedom for greater creativity and innovation. It welcomes technically certified persons outside the formal stream of education to be employed by corporates, thus demonstrating a culture of 'inclusiveness' and 'diversity 'of talents. 'New Collar' is a model of reinvention from the white- and blue-collar dichotomies to occupy the ever-expanding cognitive market space by the industry, where worker's applied knowledge, training and employability is what defines his skill (Cox, 2020). With virtual platforms and remote connectivity being the mode of operation by businesses today, new collar skilled workers would experience a sea of opportunity in the job market worldwide (Keevy et al., 2018)

3.4 Upskilling and reskilling

A program that enriches one's prospects towards career progression is what is meant by Upskilling. This could be encouraged by complementing the existing Skilling ecosystem with enhanced use of online programs for skilling. These would be cost-effective, viable and offer a flexible, self-paced learning possibility extending both horizontally and vertically to the beneficiaries (Modestino, 2020)

In addition to upskilling, there need to be avenues for addressing the concerns of women and others who have been forced out of the work environment on account of familial or other primary concerns. If the skilling mechanism is able to cater to the needs of these categories who would be willing to rejoin work, it would, in a way, enforce the development and productivity of the workforce (Illanes et al., 2018). After having explored the evolution and rise of disruptive skills (transition from blue-collar to digital skills to 21st-century skills and now to new collar skills), it becomes imperative to statistically determine how the process of Skilling, Upskilling and Reskilling could impact employability in the ecosystem.

3.5 Problem and the Research Gap

Having arrived at a hierarchy of IT employability skills, one would need to evaluate how many of these skills have been absorbed as part of the curriculum of the skill development institutions in India. This would add value in appraising the effectiveness of these training programs offered to students and how many of them fare well in terms of enhancing their employability potential.

There have been a number of studies pointing to one skill or the other that enhances productive potential. However, in order to ensure the productivity of the masses, there is a need for arriving at a comprehensive set of 'employability oriented' IT skills. These should be introduced as part of the curriculum of skilling (both formal and informal education sector) so that there is a wider awareness and access to these skill sets to a larger population of the youth.

At the same time, there is a growing need to evaluate the effectiveness of the existing curriculum of IT skills development institutions in promoting employability among the working class. From this stems the need to analyse what it takes to improve the effectiveness of these programs. This study attempts to evaluate the curriculum of IT skill building institutions and suggest measures of improving their functionality to cope with changes that business and industry confronts.

3.6 Research Objectives

The research objectives that arise at this point of the study are:

a) To examine whether the IT skills building ecosystem influences employability among the workforce.

b) To study the factors that impact the IT skills building ecosystem effectiveness towards employability generation. These factors derived as per the study are applied knowledge, effective relationship and workplace skills (divided into Voice Functional skills and Non-Voice Functional skills)

Apart from the aforementioned Primary Objectives, this study sets down the following as its secondary objectives intended to be derived. They are:

a) To study some of the major reasons for unemployment in the IT sector in India

b) To understand and suggest to governmental and decision-making bodies those measures that could accelerate the pace of IT skills development for India.

4. Motivation

The need for keeping oneself abreast with the changes in the job market is essential to employability and sustenance. This becomes ever more relevant to Information Technology-driven jobs that have off late been multiplying worldwide, that too at unexpected rapidity during the past few years. The pandemic and its aftermath have exerted undue pressure upon current jobs, making them more remote and connective at the same time. Speed, efficiency and efficacy of delivery have been the motives that are given consideration to decide whom to procure services from and which skills to recruit for in order to pace with competition and grow in the market. Thus, it becomes essential to pinpoint on those (information technology enabled) skills that are in high demand that employers keenly are on the lookout for among prospective employees. Increasing awareness and efforts in skilling manpower in these skills will make a breakthrough to bridge the divide among the employable and non-employable workforce.

5. Hypotheses

The hypothesis that forms part of and has helped corroborate the study is as follows:

H1- H_0: Skills Building Ecosystem does not have a positive and significant impact on Employability.

H_1: Skills Building Ecosystem does have a positive and significant impact on Employability.

H2- H_0: There is no significant difference in mean rating score across four factors (Applied Knowledge, Effective Relationships, Voice Functional Skill and Non-Voice Functional Skills) that reflects the skill requirement (importance) as perceived by graduates.

H_1: There is a significant difference in the mean rating score across four factors (Applied Knowledge, Effective Relationships, Voice Functional Skills and Non-Voice Functional Skills) that reflects the skill requirement (importance) as perceived by graduates.

H2 has been split across the four factors as sub hypotheses to test as follows:

$H2_{(1)}$ The mean score between Applied Knowledge and Effective relationships

$H2_{(2)}$ The mean score between Applied Knowledge and Voice Functional skills

$H2_{(3)}$ The mean score between Applied Knowledge and Non-Voice Functional skills

$H2_{(4)}$ The mean score between Effective Relationships and Voice Functional Skills

$H2_{(5)}$ The mean score between Effective Relationships and Non-Voice Functional Skills

$H2_{(6)}$ The mean score between Voice Functional and Non-Voice Functional Skills

6. Research Methodology

A study on the employability generation potential of the IT Skill Building ecosystem in India was conducted by collecting data from 600 respondents who were graduates of IT skills learning programs. The sample selection (600 respondents - graduates) was convenience-based and driven from the existing network of students who had enrolled and completed training in both conventional and new-collar skills training institutes in India. These institutes were those accredited or approved to provide training in IT skills in accordance with market demand and thus also provided employability support to their enrolled candidates.

Interviews with industry experts, Sector Skill Council (NASSCOM) experts were first in line to validate the constructs for the study, post which primary data was collected from graduates by way of a questionnaire for quantitative testing. Secondary sources data that was obtained from governmental records – AICTE sourced data (2020-21)* have corroborated our findings from primary sources.

Table 2: Graduates Sample Selection from IT Skill Development Institutions

Skill Development Institutions (SDIs) - Sample selection			
Program types offered	Bangalore Urban & Rural (Institutions covered)	Graduates covered	Graduates (%)
Engineering & Technology	13	203	34%
Polytechnics	4	60	10%
Management	5	80	13%
PMKKs*	3	103	17%
Others (Applied Arts, BVOC, SMART, SDMS)	4	154	26%
Total	29	600	600

*(*PMKKs' – Pradhan Mantri Kausal Kendras are IT training centers that impart conventional skills training to incumbents and are part of the PMKVY program of Skill India Movement 2015)*

A survey questionnaire was prepared based on the Employability Skills Scale (American Institute of Researchers, 2016) customised to the Indian training environment. A number of other employability skills theories have been included to form the conceptual model of this study depicted in Figure 4 below (embedding industry demand and supply factors specific to the Indian IT sector).

The questionnaire was administered to the graduates of both conventional skills and new-collar skills. They were asked to record their opinion on various skill types (the four dimensions) they felt relevant to employability (graded on a five-point Likert scale). The dimensions were converged into four- three factors obtained from the literature review (Figure 3), and the fourth was derived from exploratory factor analysis of the 'workplace skills' dimension segregated into two. Skills building ecosystem was reflected by the four dimensions viz., Applied Knowledge, Effective Relationships, Workplace Skills (Functional Voice and Functional Non-Voice) and Employability, the dependent variable. (Table 3 below)

Table 3: Factor labelling of the dimensions of study

Variable (question) Description	Dimension	Factor
Q1. Ability to think logically/analytically as derived from educational background (and demonstrated by academic track record)	Critical Thinking Skill	APPLIED KNOWLEDGE
Q2. Proficiency in at least one language/platform (say, Java or .Net framework)	Applied Academic Skill	
Q5. Competency in a few technology areas, programming languages/platform, or domain – deep expertise required either in technology or domain or both	Critical Thinking Skill	
Q6. Coding experience - C++, Java or other new languages	Applied Academic Skill	
Q8. Understanding of business functionality resident in the Software	Applied Academic Skill	

Variable (question) Description	Dimension	Factor
Q9. Ability to translate the Functional Specifications to Design and System Specifications	Critical Thinking Skill	
Q7. Ability to understand the basics of software architecture – databases, platforms, hardware, servers, etc.	Critical Thinking Skill	
Q10. Artificial Intelligence, Machine Learning, Internet of Things, Block chain, Robotics	Applied Academic Skill	
Q13. A keen understanding of bus iness functionality of software/module/project	Applied Academic Skill	
Q14. Basic understanding of software engineering concepts – technology aspects of project team	Applied Academic Skill	
Q18. Basic process knowledge and ability to provided technical Support	Applied Academic Skill	
Q25. Strong analytical skills	Critical Thinking Skills	
Q15. Ability to handle enquiries	Interpersonal Skills	EFFECTIVE RELATIONSHIPS
Q16. Computer/key board skills	Personal Qualities	
Q17. Attention to details	Personal Qualities	
Q21. Active listening skills	Interpersonal Skills	
Q22. Ability to understand accents	Personal Qualities	
Q23. Ability to empathise with customers	Interpersonal Skills	
Q24. Aptitude to undertake repetitive work	Personal Qualities	
Q27. Ensuring faster turnaround time	Interpersonal Skills	
Q31. High level of perseverance	Personal Qualities	
Q32. High energy level with customer orientation	Personal Qualities	
Q33. Emotional intelligence on aptitude for the job	Personal Qualities	
Q3. Adequate communication skills	Communication Skill	FUNCTIONAL & SOFTSKLLS(VOICE)
Q19. Ability to meet turnaround time requirements	Information Use	
Q20. Adequate negotiation skills	Communication Skill	
Q30. Good communication (spoken, written) skills	Communication Skill	
Q34. Aptitude for repetitive work & Integrity	Resource Management	
Q36. Understanding and managing customers' expectations	Information Use	

Variable (question) Description	Dimension	Factor
Q4. Ability to think beyond 'Programming' and acclimatise with the concept of 'Software Engineering' and 'Systems Thinking'	Systems Thinking	FUNCTIONAL & SOFTSKILLS (NON-VOICE)
Q11. Knowledge of process requirements	Information Use	
Q12. Ability to capture learning from one project/process and apply the same in other projects	Resource Management	
Q26. Ability to comply with process	Information Use	
Q28. Ability to use tools	Technology Use	
Q29. Basic business/process understanding	Information Use	
Q35. Understanding of process and the nuances of the Statement of Work (SoW), especially on issues rela ted to quality	Resource Management	

The results of the responses were subjected to reliability and validity analysis checks. It was observed that the Applied Knowledge dimension has a composite reliability value of 0.952 and Cronbach alpha of 0.958. Effective Relationship dimension has a composite reliability value of 0.892 and Cronbach alpha of 0.902. Voice functional skill dimension has a composite reliability value of 0.941 and Cronbach alpha of 0.947. The Non-Voice Functional Skill dimension has a composite reliability value of 0.950 and Cronbach alpha of 0.950. Employability dimension has a composite reliability value of 0.812 and Cronbach alpha of 0.854, respectively. The findings reveal most of the constructs have higher than the required reliability for further statistical analysis. Hence, we conclude that all the items grouped completely converged to their respective sub-dimensions and were reliable.

7. Conceptual Model of the Study

The three major dimensions that impact the IT Skills building ecosystem towards employability as derived from the literature review are applied knowledge, effective relationship and workplace skills. These are termed as impact factors of the skills ecosystem. Based on several theoretical scales in literature viz., American Institute of Researchers (2016), Bioecological or Employee Appraisal Scale (2018), a conceptual model to depict the relationship of IT Skills building ecosystem with Employability was arrived at as part of this study for further hypotheses testing by way of Structural Equation Modelling (SEM) method (see Figure 4 below).

These items were framed into a measurement model (refer Figure 5) (based on the conceptual model of the study – Figure 4), which was inferentially tested by regression analysis through the Structural Equation Model method. The measurement model was subjected to Goodness of Fit indices measurement to conclude on its tenability as a best-fit model for pursuing SEM analysis based on the constructs. (Please find the results of goodness fit indices measures Table 4 below) on this measurement model.

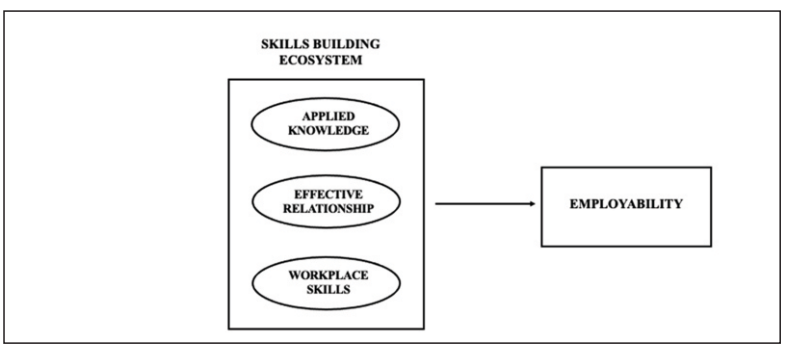

Figure 4 : Conceptual Model of Skills Building ecosystem and its impact upon employability

Source: Prepared by self- based on Employability Skills Scale of the American Institute of Researchers, customised to Indian training ecosystem

Table 4: Goodness of Fit Indices

Fit Indices	Accepted Value	Model Value
Absolute Fit Measures		
$\chi 2$ (Chi-square)		1055.985
df (Degrees of Freedom)		730
Chi-square/df ($\chi 2$/df)	<3	1.447
GFI (Goodness of Fit Index)	> 0.90	0.879
RMSEA (Root Mean Square Error of Approximation)	< 0.10	0.067
Incremental Fit Measures		
AGFI (Adjusted Goodness of Fit Index)	> 0.80	0.839
NFI (Normed Fit Index)	> 0.90	0.880
CFI (Comparative Fit Index)	> 0.90	0.905
IFI (Incremental Fit Index)	> 0.90	0.907
RFI (Relative Fit Index)	> 0.90	0.877
Parsimony Fit Measures		
PCFI (Parsimony Comparative of Fit Index)	> 0.50	0.847
PNFI (Parsimony Normed Fit Index)	> 0.50	0.702

Source: Prepared from measurement model tested for construct validity for further tests

From the test analysis, it is observed that the regression loading values of all variables were above 0.50, and the model had a GFI value of above 0.9, RMSEA less than 0.1 (indicating an overall acceptable fit). The results indicate that all items can be considered for further analysis and hypothesis testing.

8. Analysis and Interpretations of the Study

Demographics collected and analysed with the responses did throw path-breaking inferences to direct the course of the study. The impact of skills building ecosystem on employability was subjected to structural equation model analysis for understanding their inter-relationships. It was found that the skills building ecosystem did have a positive impact upon increasing employability. Figure 5, read along with Table 5, give us the regression estimates on each of the 40 variables and of the relationships between skills-building ecosystem and employability.

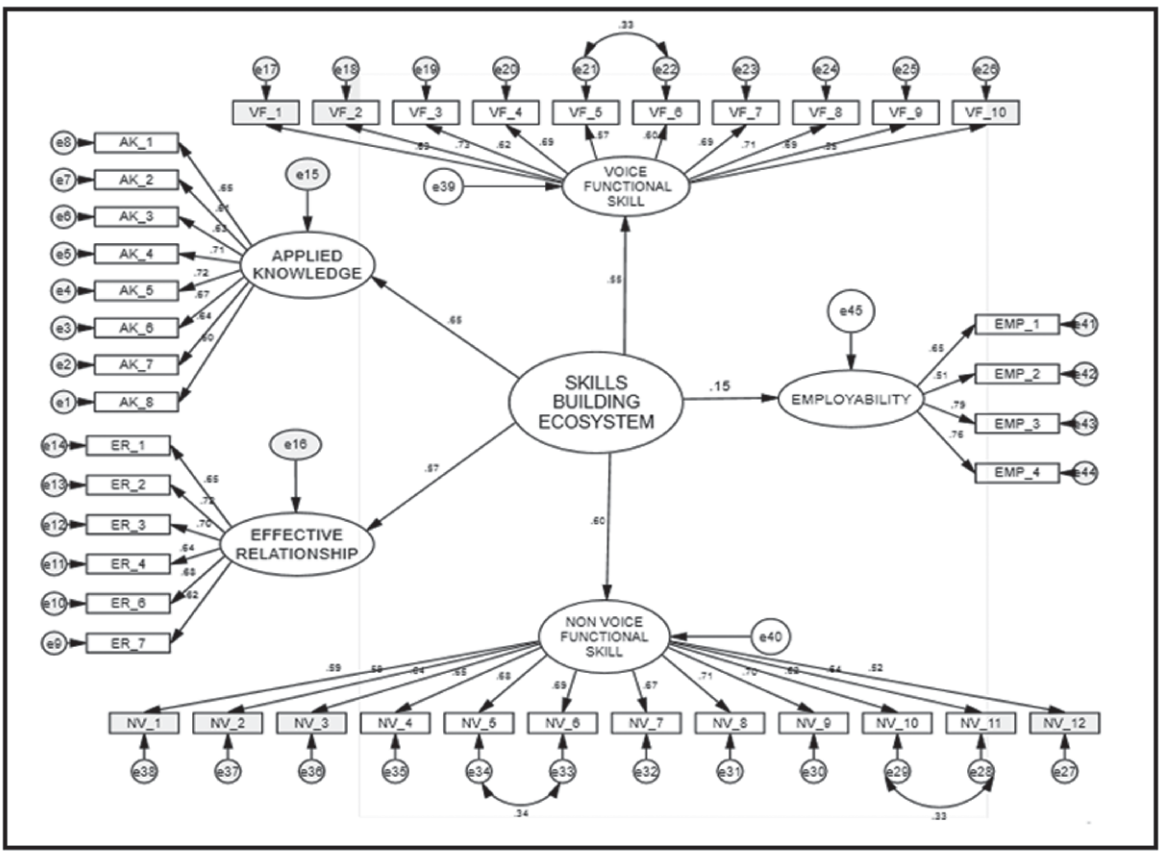

Figure 5: SEM model of direct relationship between Skills Building Ecosystem and Employability – for Graduates

Source: Prepared by authors on the basis of primary data collected from 600 graduate respondents

Note. Legend explaining Figure 5

'e' – error estimates on each of variables 'EMP' – Employability skills

'AK' – Applied knowledge skills 'EF' – Effective relationship skills

'VF'– Voice Functional skills 'NV' – Non-Voice Functional skills

Table 5: Standardised Regression weights for direct relationship between Skill/Knowledge Building Ecosystem and Employability dimensions – Graduates

Relationship			Standard Estimate	S.E.	C.R.	P
Employability	<---	*Skills Building Ecosystem*	0.146	0.192	4.665	0.036*

** Significant at 5% level.*

The regression results, as provided in Table 3, observed that *Skills Building Ecosystem* has a direct and positive significant (ß = 0.146, CR = 4.665, p<0.036) influence/impact on *Employability*, thus, H_1 could be fully asserted.

This can be further interpreted as, for one unit increase in the rating scale on *Skills Building Ecosystem*, one could expect about 0.146 times (approximately one-fifth times) increase in *employability* given other factors remain fixed or same.

Now on H2- null_There is no significant difference in mean rating score across four factors (Applied Knowledge, Effective relationships, Voice Functional Skill and Non-Voice Functional skills) that reflect the skill requirement (importance) as perceived by graduates.

For the purpose of testing this hypothesis, the overall mean score of the *Skills Building Ecosystem* was measured based on the importance of each skill as perceived by graduates.

The perception was captured on a five-point Likert scale where '1= *Not at all important*' and '5= *Very Important*' for the *importance of skill requirement*.

The Impact factors of the Skills building ecosystem that were to exert influence on employability were: Applied Knowledge, Effective Relationships, Voice Functional Skill and Non-Voice Functional Skills, which was measured based on 40 variables that were determinants to the above impact factors.

Table 6: Two sample mean comparison test results (unpaired) on skill requirement (importance) rating

Variable	Mean	S.E	t-value	p-value	Remarks
Applied Knowledge	3.326				
Effective Relationships	3.298	0.044	0.065	0.520	Not Significant
Difference	0.028				Accept $H_{(0)2}$
Applied Knowledge	3.326				
Voice Functional Skill	3.393	0.048	- 1.400	0.169	Not Significant
Difference	- 0.066				Accept $H_{(0)2}$
Applied Knowledge	3.326				
Non-Voice Functional skills	3.437	0.045	-2.450	0.014*	* Significant at 5 % level
Difference	-0.110				Accept $H_{(1)2}$
Effective Relationships	3.298				
Voice Functional Skill	3.393	0.046	-2.050	0.041*	* Significant at 5 % level
Difference	-0.095				Accept $H_{(1)2}$
Effective Relationships	3.298				
Non-Voice Functional skills	3.437	0.045	-3.150	0.002*	* Significant at 5 % level
Difference	-0.139				Accept $H_{(1)2}$
Voice Functional Skill	3.393				
Non-Voice Functional skills	3.437	0.044	-1.000	0.315	Not Significant
Difference	-0.044				Accept $H_{(0)2}$

Note: N = 407, Rating Scale: 1- Not at all important and 5= Very Important

It has emerged from the two-sample comparison test results depicted in Table 1 that there is a significant (statistically) (t= -2.450, p= 0.014, p< 0.05) difference in the mean rating between ***Applied Knowledge*** (mean = 3.326) and ***Non-Voice Functional Skill (mean = 3.437)*** dimensions from the perspective of graduates on the skill importance requirement. Accordingly, as the mean score of Non-voice Functional Skill is slightly higher when compared to the Applied Knowledge dimension, it could be inferred that respondents are of the view that Non-voice Functional Skills are of higher importance as compared to the Applied Knowledge dimension. A similar scenario is observed between Effective Relationship and Voice Functional skills where the respondents are giving slightly higher importance to Voice Functional skill and Non-Voice Functional skillsets when compared to Effective Relationships.

9. Discussion

The patterns and test results that have emerged from our study closely align to the underlying construct on the inevitable need for skilling, upskilling and reskilling of masses. To acquire and develop new skills throughout the lifetime of individuals has been reckoned as the lynchpin for policymakers worldwide (European Commission 2010:16). Taking a look at the impact on employability generation of IT skills-building ecosystem that this study has mainly contributed to, one may summarise on the additional findings as follows.

9.1 Impact of skills building ecosystem on employability

That the skills-building ecosystem has a positive impact upon increased employability (as statistically derived from this study) shows the direction and pace at which education institutions (both formal and informal) would need to invest further. Our primary findings have vouched for an increase in placement rates of skilled graduates during the past years from 2015 onwards. This employment trend has, however, remained low profile on account of the lack of direction on the skills in demand and inability to keep up with the changing job landscape.

9.2 Applied knowledge and functional application of new-collar skills

As against the earlier studies that have referred to 'employability skills' in general, this study pinpoints the specific type of IT employability skills that warrant immediate focus. These are the new-collar skills. The preponderance of 'Applied Knowledge' coupled with the functional application of new-collar skills dimensions would extend the reach and effectiveness of the skills-building ecosystem. It is in this direction that the motives of skill training institutions should invest to obtain an upper hand over employability.

9.3 Accelerating innovation in training institutions

Thirdly, the role of accelerating the innovative potential of graduates can be served by improving the contribution of women in the workforce(inclusiveness) and equipping graduates with functional skills. A greater number of programs for reskilling seem an imminent focus area for skilling institutions. The study found that 41% of graduates who enrolled in the skill development programs were women. When compared to existing unemployment ratios that are currently as high as 18% against an overall 7% unemployment ratio in the country as per World Economic Forum Report (2020) (https://www.weforum.org/agenda/2020/03), enrollment of women in skill development programs needs progression. The curriculum of skilling institutions would need to imbibe more practical training in functional non-voice skills that help promote innovative spirit in the incumbent. This could provide a major relief to the many who find themselves unable to work after having taken a break – owing to the notion of their skills turning redundant or misfit to changing job roles. Inclusiveness and nurturing innovation are the significant action points for skilling institutions to tackle the 'unemployment' of the massive labour force in India.

9.4 What were some of the daunting reasons for unemployment?

While 84% of the respondents pointed to the lack of awareness on available job roles in the market as the key reason for lower placements, 80% mentioned the lack of practical job role simulation experience as causative to preventing many of graduates from getting suitable placements. 20% ascribed to the lack of creativity and innovative mindset as one of the major reasons for the decline in employability. 15% were of the view that IT skilled professionals were to avail opportunities of upskilling in emerging new-collar skills so as to remain employable.

9.5 Would this call for a collaborative effort in IT skill development?

80% of the respondents were of the opinion that employers could play a marked role in accelerating employability by facilitating a culture of continuous learning. This would be one of the most successful practices employers could

encourage among their employees. Being in most proximity to the job ecosystem and changing trends, employers could do even more. They could propose and initiate timely improvisation in the skilling curriculum of skill development trainers/institutions in alignment with the needs of the industry. Apart from the in-house training employers provide to employees, they could enhance the outreach of their programs to a wider population base. This would indeed become a highly desired move in the direction towards employability enhancement.

10. Contribution

From a systemic evaluation of IT skills imparted currently by skill development institutions in the country, this study has endeavoured to throw light on newly emerging skills. Skills like 'new collar' skills, when combined with conventional skills, could create superior skill fits for the market. This would mean an immense positive impact on employability numbers. This study tends to discuss the high impact factors that help spur an increase in employability is what the study tends to discuss. The study also delves on how Skill Development Institutions can imbibe these into their course curriculum to improve the quality and effectiveness of their programs. These insights would increase general acceptance for enrollment into these IT skill development programs, make them more accessible to the masses and bring in newer job and career opportunities as explicit outcomes in coming years.

11. Conclusion

The measurement model analysis and results therefrom confirm the theoretical perspective expounded through the study that there is a direct and positive impact that skills training can engender in productivity rates, growth and development of a country. Government and civic bodies must therefore make all-out efforts to secure increased awareness and muster support for the promotion of these programs among the masses.

Of the dimensions that constitute the skills-building ecosystem, test results of the study lead us to conclude that Applied Knowledge with Functional Non-voice Skills stands apart when compared to the other impact factors with regard to creating higher stakes for employability. There is a need for enhanced proficiency in the technical know-how provided by the skilling institutions in the country. Collaboration with the industry to improve teaching outcomes for students would facelift the challenges posed by newer technologies. This would help in availing opportunities for apprenticeships and internships with corporate partners. There is a need for alignment of IT skills curriculum to match industry requirements timely. A feasible suggestion that could bring breakthrough results if adopted by the government in the education sector is to include periodic revision in the syllabus within fixed intervals of 4-5 years. This would set the stage for serious improvement in the enrolment ratios to these IT skills training programs and culminate in better placement numbers each year. Encouraging online IT training courses and promoting online platforms to deliver learning would undeniably be the norm going forward in India, in the wake of social distancing and remote connectivity demands. Thus, reiterating the three-pronged strategy of skilling, upskilling and reskilling as the way ahead to emerge stronger in the new era.

12. Limitations

The study has been scoped down to IT skills-building institutions of the country. Though there are about 30 different verticals or industry sectors that provide job opportunities to the youth in the country, this study takes the Information Technology sector alone for analysis. This may feature in limitations to the generalisation of the findings of this study to other sectors. Whether the generic would assume precedence to the specific or vice versa is the argument that creates a limitation on extrapolating the results of this specific study to all other existing sectors. However, the study has been one of its kind and the first in addressing the impact of employability generation in IT skills-building ecosystems. This would help derive informed opinion (based on data) on how the IT skills-building ecosystem would contribute to employability generation. Also, the Indian context has been the ground for the study could be cited as an additional limitation. But with India's position as a major player in the IT sector worldwide, Indian inputs do need to be given credence in terms of overall applicability.

13. Scope for Further Research

The pandemic has brought us to an inflection point in history, 'a post-Covid world'. This has set the stage to imagining newer ways but with cautious optimism. A world that longs for new skills and new ways of working is sure to drive and encourage studies to further the trail of this research. The Skills Building Ecosystem assumes a priced

position in this new world. Future researchers could venture into exploring newer skills- identifying those that would make a disruptive mark in the virtually connected world reflective of sectors other than the IT sector. The governments and policy-making bodies would need to strengthen their efforts in supporting this task. It would not be restricted to studies merely on the promotion of newer skills in the other sectors, but also on where reskilling and upskilling of workforce population need to emerge in those non-IT sectors. Essentially there has never come a time so poignant to change and transition than now. The three-pronged strategy will open vistas to a smarter uplift for people the world over, into a well-equipped welfare trajectory – relevant now to the IT sector and even more to other sectors- time will prove.

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The Antecedents of Intention to Purchase Authentic Handloom Apparel in India: A case of Banarasi Silk Apparel Consumers

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Abstract

The handloom sector plays an integral part in the textile and apparel market of India. Handloom clothes woven by Indian weavers are admired globally due to their magnificent artistry and rich cultural symbolism. However, the art of authentic weaving is under threat due to intense competition from counterfeits of authentic handloom apparel. Therefore, the present study attempts to address this problem by investigating the factors behind the purchase of authentic handloom apparel in India. A model is framed to fulfil a two-fold objective of the study. Firstly, to examine the impact of antecedents of attitude towards authentic purchase and secondly, to test the relationship between attitude and purchase intention towards authentic purchase. The model is validated using structural equation modelling with 312 valid responses using a questionnaire to gauge the consumers' attitude towards authentic Banarasi Silk Apparel (BSA). The findings of the study revealed integrity, vanity, status consumption and product knowledge as significant predictors of attitude towards purchase of authentic Banarasi silk apparel and attitude as a significant factor affecting intention to purchase authentic Banarasi silk apparel. The study suggests measures through which weavers, with the collective effort of handloom welfare associations, can plan their marketing activities and overcome the issue of counterfeits.

Keywords: *Handloom, Banarasi silk, counterfeited products, authenticity, attitude, purchase intention*

1. Introduction

Handloom apparel has always occupied a special position in the textile and apparel market of India. Hand-spun and hand-woven apparel are valued globally because of the magnificent artistry and rich cultural symbolism. It is the representation of the proud legacy of India, which has been sustained since ancient times by transferring the skills from one generation to another. Handloom apparel is not just clothes, but it has an emotional value attached to it. Products made by hand carry the essence of 'artisans love' in the production process, which the machine-made products lack (Fush, 2015). Despite the fame and love given to handloom apparel, the artisans of the handloom industry are in dire poverty. They are prone to multifarious problems, one of them being the threat from counterfeiters (Phukan, 2012; Patra, 2015; Varghese et al., 2015; Veeramani, 2017; Datta, 2018).

The International Anti-Counterfeiting Coalition **(**IACC) defines counterfeiting as the act of manufacturing or distribution of cheap imitated products in the name of someone else's brand without taking their permission. Counterfeiting may involve copying the packaging, trademark and labelling of an authentic article (Kay, 1990**)**. The issue of counterfeiting is prevalent not just in the apparel market but also for products like electronics, wines, personal care products, furniture, medicines, software, music and automobiles (IACC). Extant literature suggests that some consumers unknowingly get into the trap of counterfeited products due to its resemblance with the authentic product (Bloch et al., 1993; Tom et al., 1998), while some consumers intentionally purchase counterfeited products on demand even after knowing that the product is illegal (Bloch et al.,1993; IACC).

The present study is the case of the Banarasi silk apparel market of India. Banarasi silk sarees are one of the finest sarees manufactured in India, admired globally for the gold and silver brocades and exquisite embroideries. Banarasi silk apparel is manufactured in Varanasi city and the nearby districts of Uttar Pradesh. It is a traditional knowledge-based product that received the geographical indication (GI) tag, place-based intellectual property rights in the year 2009 to protect the weavers from counterfeits and misappropriation. The GI formalised 'authentic Banarasi silk' as only those products which are made of silk fabric on a handloom using silk warp and silk weft technique and has a brocade embroidery (Basole, 2014; Faizal, 2016). By contrast, those apparel that are made of synthetic yarn or made on power loom are considered counterfeited products. Counterfeited apparel are manufactured in a lower time span and sold at a lower price. The threat of counterfeiters has forced many weavers to leave the art of authentic weaving and shift to other menial jobs. In fact, the problem of migration of handloom weavers due to counterfeiting prevails in other parts of India like West Bengal (Datta, 2018), Assam (Phukan, 2012; Veeramani, 2017), Odhisa (Patra, 2015), and Kerala (Varghese et al., 2015). The protection and promotion of handloom products are unavoidable not merely because it represents a pride legacy of handloom weaving in India but also due to the fact that livelihood of 31.45 lakhs weavers directly and more than 8 lakhs allied workers indirectly depend on it (Fourth All India Handloom Census, 2019-20). But before inspiring consumers about the use of authentic apparel, it is essential to understand what factors induce the buyer to purchase authentic handloom apparel.

Earlier researchers have endeavoured to understand the antecedents at play in the case of apparel counterfeiting (Moon et al., 2018; Kim & Karpova, 2010; Marcketti & Shelley, 2009; Bakhshian et al., 2019; Prathap & Sreelaksmi, 2020). The proposed work is novel in seeking to understand consumer intention towards the purchase of authentic handloom apparel, taking the exclusive case of Banarasi silk apparel. Relatively few researches have been undertaken in India to understand the consumer intention with regards to GI certified handloom apparel such as Banarasi silk apparel. The given study thus aims to fulfil this gap by exploring the antecedents of consumer intention and highlighting the key factors at work during the purchase of authentic handloom apparel.

The proposed study would facilitate the handloom marketers in better understanding the crucial influence of attitude on the purchase intention of authentic handloom products. The findings of the study would help the marketers to comprehend the factors at play while the consumer is forming an intention to purchase an authentic handloom product. The results would assist them in positioning authentic handloom products by leveraging the major antecedents of attitude. This study has used the Theory of Planned Behaviour, the Theory of Reasoned Action and the S-O-R model to propose a model determining the authentic handloom purchase intention

2. Literature Review

To theorise authentic handloom purchase intention, the study has used the Theory of Planned Behaviour (Ajzen,

1991) and Theory of Reasoned Action (Fishbein & Ajzen, 1975). As highlighted by the theory, central to any behaviour is the intention of the consumer, which is the motivating factor inducing desired behaviour and, therefore, a strong predictor of behaviour (Ajzen, 1992). Intention depicts the effort that the consumer is willing to undertake to perform the desired behaviour. The theory proposes three important determinants that influence intention viz attitude, perceived behaviour control and subjective norms.

Our study is based on one of them, i.e., attitude. Attitude determines the degree of favourableness or unfavourableness towards a behaviour. A favourable attitude towards a behaviour will lead towards a favourable/strong intention to perform the behaviour. (Fishbein & Ajzen, 1975; Ajzen, 1991; Ajzen, 1992).

This study also relies on the Mehrabian and Russel proposed model of Stimuli (S) - Organism (O) – Response (R) (1974). It states that stimuli in our environment (S) influence the emotional state of an individual (O), leading towards behavioural responses (R). In the proposed study, the stimuli are social and personality attribute cues. These cues cause consumers to experience an emotional state, i.e., developing a favourable attitude towards the intended behaviour, which with regards to this study is the purchase intention of handloom apparel. Social attribute cues are those factors that are influenced by the social environment of consumers (Phau & Teah, 2009; Moon et al., 2018). The inner traits of consumers that influence behaviour (Phau & Teah, 2009) are termed as personality cues. An extensive review of the existing literature revealed informative susceptibility and normative susceptibility as crucial social cues in developing a favourable attitude towards a certain behaviour (Phau & Teah, 2009). Further, integrity, vanity, status consumption and price sensitivity were taken as significant personality attribute cues (Phau & Teah, 2009; Hung et al., 2011). This paper has also tested the role of product knowledge as an antecedent of attitude formation towards authentic Banarasi apparel (Bian et al., 2016; Moon et al., 2018).

2.1 Information susceptibility and attitude towards purchase

Peer group holds a significant place in the decision-making process of a consumer. Consumers are likely to get influenced by the opinions and feedback of those around them. Bearden et al. (1989) put forward two common forms of consumer susceptibility viz., information susceptibility and normative susceptibility. Information susceptibility occurs when products are purchased relying on the expert opinions of others. In such situations, the views of others in the context of product quality and originality play a dominant role in buying decisions. Studies have shown that information susceptibility exerts a negative effect on the perception of counterfeits (Ang et al., 2001; Phau & Teah, 2009), attitude towards software piracy (Wang et al., 2005). The available literature thus implies that consumers with higher information susceptibility are more likely to rely on others' opinions and tend to purchase authentic products. It is thus proposed that,

H1: There is a positive influence of informative susceptibility on attitude towards purchase of authentic BSA.

2.2 Normative susceptibility and attitude towards purchase

The other form of susceptibility is normative susceptibility, where the purchase is undertaken in order to impress others (Ang et al., 2001). Consumers' susceptibility to normative influence is explained as the need to identify with those around them or raise their image by using products and conform to others' expectations in the context of purchase (Bearden et al., 1989; Summers & Belleau, 2006). Wang et al. (2005) confirmed that normative susceptibility is an important factor in determining consumer attitude towards software piracy in a study conducted in the Chinese market. Ang et al. (2001) established a negative relationship between consumer attitude towards pirated products and normative susceptibility. Normative susceptibility is found to be negatively related to purchase attitude in regards to fashion counterfeits goods (Kim & Karpova, 2010). Phau and Teah (2009) conducted a study in the Chinese market and found that normative susceptibility has a negative influence on the attitude of consumers. Such studies imply that consumers who are keen on creating their impression on others and enhancing their image by showcasing the use of luxury brands are more likely to possess a positive attitude towards authentic products. Hence, we have sufficient ground to hypothesise that:

H2: There is a positive influence of normative susceptibility on attitude towards purchase of authentic BSA.

2.3 Integrity and attitude towards purchase

Integrity is the quality of possessing high moral principles and law consciousness. The extent of consumers' integrity

influences their attitude towards authentic products since they may perceive counterfeiting and piracy to be unethical and unlawful and hence discouraging them. Previous studies have also supported the above notion as researchers have found out that integrity has a negative impact on the attitude towards counterfeited products (Phau et al., 2009) and piracy (Ang et al., 2001). Wang et al. (2005) performed a study on Chinese consumers and proposed that integrity has a negative influence on attitude towards pirated software. Integrity is found to be a negatively significant influence while purchasing counterfeits apparel (Bakhshian et al., 2011). Thus, consumers with higher integrity are less likely to succumb and buy counterfeited and unauthentic products. It is therefore being proposed that:

H3: There is a positive influence of integrity on attitude towards purchase of authentic BSA.

2.4 Vanity and attitude towards purchase

Vanity is a psychological construct that can be explained as having an excessive concern and/or positive and maybe inflated view of own physical appearance and /or personal achievement (Netemeyer et al., 1995). The attributes revealed by Netemeyer encompass more regards for status, physical appearance and self-advancement. Studies have shown that vanity has a positive impact on attitude towards luxury products perception (Hung et al., 2011; Soh et al., 2017). It means that consumers with high vanity are more inclined towards purchasing authentic high-priced products because they are concerned with physical appearance. We can thus hypothesise that:

H4: There is a positive influence of vanity on attitude towards purchase of authentic BSA.

2.5 Status consumption and attitude towards purchase

Status consumption indicates that people consume products with the objective of denoting a superior level of status for themselves and those others around them (Eastman et al., 1997). Status consumption commands respect, envy and respect from others (Csikszentmihalyi et al., 1981). Status consumers intend to own branded products in order to showcase and attain respect and recognition (Phau, 2009, Jiang & Cova, 2012). Wilcox et al. (2009) and Phau et al. (2009) conducted a study on luxury brand counterfeits and proposed that status consumption has a negative influence on attitude towards luxury brand counterfeits. The past studies thus support the idea that status consumers would have a positive attitude towards the purchase of authentic products. We can, therefore, propose the hypothesis that:

H5: There is a positive influence of status consumption on attitude towards purchase of authentic BSA.

2.6 Price sensitivity and attitude towards purchase

Price is undoubtedly one of the most critical factors when it comes to the attitude of consumers. Price sensitivity is defined as the concern for paying low prices, given certain quality restraints (Ang et al., 2001; Lichtenstein et al., 1990). Consumers with high value towards authenticity are not concerned with the price rather quality and originality. Previous studies have shown that price consciousness exerts a significant influence on consumers' attitudes towards the purchase (Wang et al., 2005). Lower price is a prominent reason for consumers to purchase unauthentic products (Ang et al., 2001). Consumers with high-value consciousness are more inclined towards purchasing counterfeited fashion products (Kim & Karpova, 2010; Fernandes, 2013). However, they are ready to pay higher prices if assured of the product quality and benefits derived from purchase (Ghali-Zinobi et al., 2019). We can therefore hypothesise that:

H6: There is a negative influence of price sensitivity on attitude towards purchase of authentic BSA.

2.7. Product Knowledge and attitude towards purchase of authentic BSA

Knowledge about the product is one of the most significant factors affecting the purchase decisions of the consumer. Consumers with high product knowledge rely on intrinsic factors such as product quality and function rather than extrinsic factors like price and brand while making a judgment (Wang et al., 2001). Previous literature suggests that consumers with high product knowledge will make an authentic purchase. Ghazali et al. (2017) proposed that product knowledge has a significant influence on attitude towards re-purchase of organic personal care products. Product knowledge impacts the attitude towards counterfeit products (Bian et al*.,* 2016; Moon et al*.,*2018) significantly. Consumers with higher knowledge about the product are more likely to evaluate better (Davidson et al., 2017). Moreover, better product knowledge leads to consumer willingness to pay more for authentic apparel products (Marcketti & Shelley, 2009). Thus, it is hypothesised that:

H7: There is a positive influence of product knowledge on attitude towards purchase of authentic BSA.

2.8 Attitude towards purchase and purchase intention

Consumer attitude can be defined as the degree to which a person has a favourable or unfavourable predisposition about a product (Ajzen et al., 1992). In case a consumer perceives authenticity as important, s/he would more likely reject unauthentic products. This notion is revealed by several previous pieces of research. Studies have shown that attitude towards purchase is a prominent predictor variable affecting purchase intention (Ang et al., 2001; Ajzen et al., 1992). Watts et al. (2018) performed a study on US consumers, and it was found that attitude significantly affects purchase intention of activewear. Belleau et al. (2007) investigated the impact of attitude on the purchase intention of generation Y consumers towards Emu leather, and it was found that a significant relationship existed between the two. Summers et al. (2006) found that consumer attitude is a significant predictor of purchase intention in the context of luxury apparel products. Thus, it is hypothesised that:

H8: There is a positive influence of attitude towards purchase and purchase intention.

3. Objective of the study

The main objective of the research paper is to propose and validate a model addressing the consumers' intention to purchase authentic Banarasi silk apparel. After a review of the extant literature, two sub-objectives are framed. Firstly, to examine the impact of antecedents of attitude on the attitude towards authentic Banarasi silk apparel. Secondly, to examine the impact of attitude towards authentic Banarasi silk apparel on purchase intention.

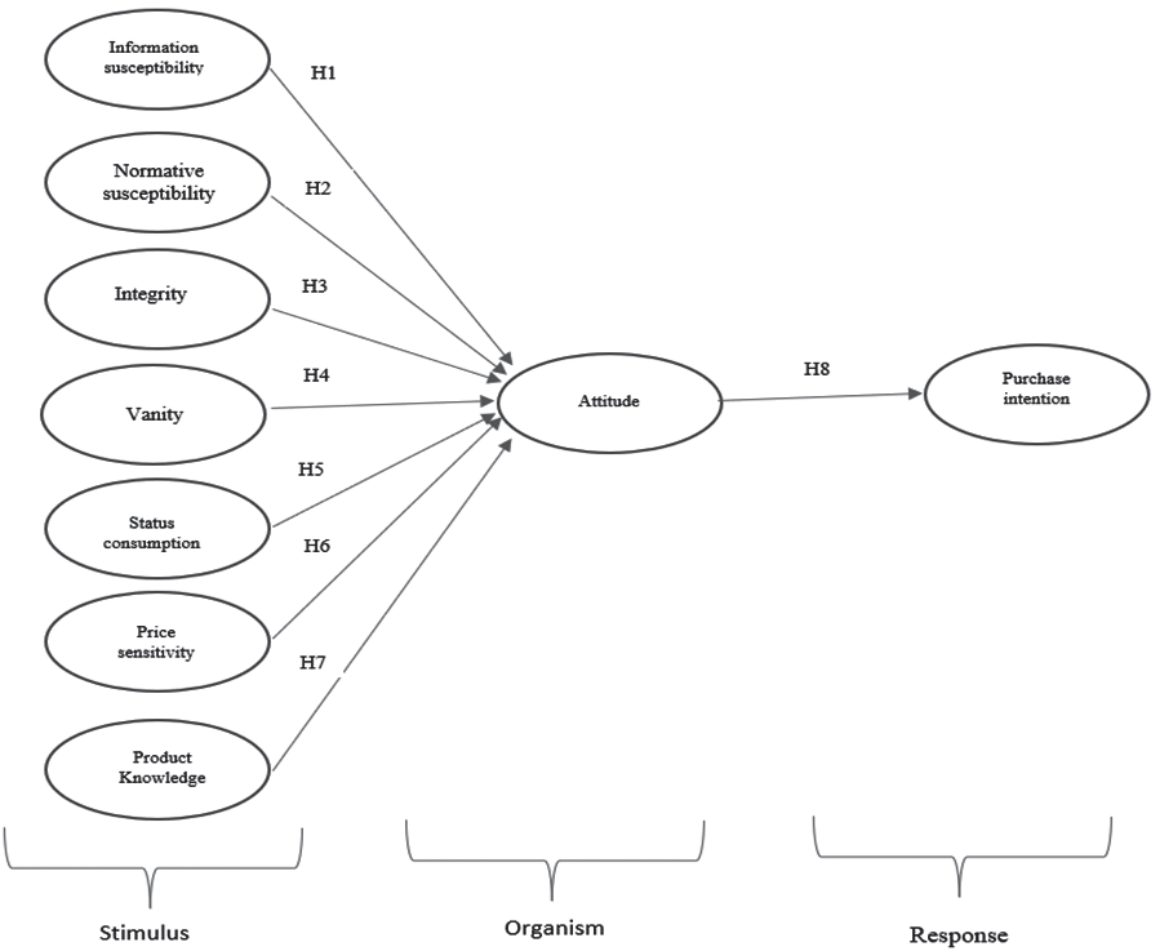


Figure 1: Framework of the study

4. Research Methodology

4.1. Data collection and sample characteristics

Potential consumers of Banarasi silk apparel were approached to participate in an online self-administered questionnaire-based survey. Potential consumers were approached from various handloom emporiums of India. A convenience sampling method was adopted. Handloom emporiums engaged in Banarasi silk were contacted both online (via Instagram, email etc.) and offline, requesting them to share the survey forms with their consumers. Consumers were also contacted by researchers via social media apps like WhatsApp, Instagram, LinkedIn as well as emails. The power estimation technique was employed to determine the sample size. G* power software was used for calculating the required sample size. With an effect size of 0.15, the power value of 0.95 and the number of maximum predictors as 8, the required sample size was calculated as 74. Non-probability convenience sampling was adopted in the study. A total of 323 responses were received; after eliminating responses with missing values and outliers, 312 responses were considered as valid, which is more than the required sample size of 74. Table 1 represents the characteristics of the sample.

Table 1: Sample description

	Number	Percentage (%)
Gender:		
1. Female	233	77.68
2. Male	79	25.32
Age:		
1. Below 18	-	-
2. 18-30	168	53.85
3. 31-40	20	6.41
4. 41-50	116	37.18
5. Above 51	8	2.56
Annual Income:		
1. Less than 2.5 lakhs	172	55.13
2. 2.5-5 lakhs	104	33.33
3. 5-7.5 lakhs	18	5.77
4. More than 7.5 lakhs	18	5.77
Education:		
1. High school	13	4.17
2. Intermediate	34	10.90
3. Graduate	120	38.46
4. Post-Graduate	115	36.86
5. Ph.D.	30	9.62

Source: Author's calculation using Excel

4.2. Measures

The items of the questionnaire were adapted from validated scales of previous studies and modified in the context of authentic Banarasi silk apparel. The questionnaire was framed in two parts; Part-A consisted of details about demographic variables. Part-B of the questionnaire was based on a five-point Likert scale, ranging from 1=strongly disagree to 5=strongly agree, except for items of 'Attitude', which was based on a semantic differential scale.

Table 2 gives detail about the sources of items. Information susceptibility was measured with three items adapted from Wang et al. (2005). Normative susceptibility was measured with three items adapted from Wang et al. (2005) and Bearden et al. (1989). Integrity consisted of four items derived from Wang et al. (2005) and Colquitt et al. (2011), and vanity consisted of four items derived from Hung et al. (2011). Status consumption also consisted of four items taken from Wilcox et al. (2009) and Ghazali et al. (2017). Price sensitivity, with three items, was derived from Wang et al. (2005) and Lichtenstein et al. (1990). Attitude and purchase intention comprised of four items were taken from Cheng et al. (2014).

Table 2: Item source and outer loading of each item

Constructs	Items	Source	Outer loading
Information susceptibility (IS)	IS1	Wang et al. (2005)	0.722
	IS2		0.679
	IS3		0.830
Normative Susceptibility (NS)	NS1	Wang et al. (2005)	0.698
	NS2	Bearden et al. (1989)	0.839
	NS3		0.654
Integrity (IN)	IN1	Wang et al. (2005)	0.772
	IN2	Colquitt et al. (2011)	0.778
	IN3		0.819
	IN4		0.709
Vanity (VN)	VN1	Hung et al. (2011)	0.805
	VN2		0.827
	VN3		0.835
	VN4		0.798
Status Consumption (SC)	SC1	Wilcox et al. (2009)	0.710
	SC2	Ghazali et al. (2017)	0.818
	SC3		0.815
	SC4		0.775
Price Sensitivity (PS)	PS1	Wang et al. (2005)	0.776
	PS2	Lichtenstein et al. (1990)	0.847
	PS3		0.820
Product Knowledge (PK)	PK1	-	0.713
	PK2		0.841
	PK3		0.826
Attitude (AT)	AT1	Cheng et al. (2014)	0.817
	AT2		0.802
	AT3		0.842
	AT4		0.842
Purchase Intention (PI)	PI1	Cheng et al. (2014)	0.812
	PI2		0.849
	PI3		0.769
	PI4		0.803

Source: Author's computation

4.3. Data Analysis and Results

To meet the objective of the study, partial least square structural equation modelling (PLS-SEM) was opted over covariance-based SEM due to the robustness in dealing with complex models with a large number of constructs (Hair et al., 2019) and small sample size (Hair et al., 2019; Xu et al., 2020). Smart PLS 3 was used for data analysis. The data was analysed considering the guidelines proposed by Hair et al. (2019).

The data analysis section is divided into two parts. The first part explains the assessment of the measurement model, and the second part explains the assessment of the structural model.

4.3.1 Measurement model assessment

Measurement model assessment includes assessment of the reliability, convergent validity and discriminant validity of the constructs. Firstly, the outer loading of each item was assessed. All the items met the threshold of 0.708, as recommended by Hair et al. (2018), except for IS2 with an outer loading value of 0.67, NS1 with an outer loading value of 0.698 and NS3 with an outer loading value of 0.654. However, these items were retained in the study because the AVE of these constructs was more than 0.50. Table 2 gives a detailed description of the outer loading of all the items in a construct.

The next step was to assess the internal consistency reliability of each construct. Joreskog's (1971) composite reliability (CR) was utilised for this purpose. As displayed in Table 3, the CR value ranged between 0.90 to 0.78, which is above 0.70, depicted satisfactory internal consistency (Hair et al., 2019). The convergent validity of each construct was examined using Average Variance Extracted (AVE). As displayed in Table 3, the AVE value of each construct ranged between 0.54 to 0.68, which is above 0.50, depicting a satisfactory result (Hair et al., 2018).

Thirdly, discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratio proposed by Hensler et al. (2015). As displayed in Table 3, the HTMT value of all the constructs was below 0.85, depicting the presence of discriminant validity (Hensler et al., 2015).

Table 3: CR, AVE and HTMT values of each construct

	CR	AVE	AT*	IS*	IN*	VN*	NS*	PS*	PK*	PI*	SC*
AT	0.90	0.68									
IS	0.79	0.56	0.48								
IN	0.85	0.59	0.53	0.31							
VN	0.89	0.67	0.47	0.32	0.42						
NS	0.78	0.54	0.47	0.62	0.21	0.52					
PS	0.86	0.66	0.55	0.49	0.61	0.35	0.41				
PK	0.84	0.63	0.6	0.21	0.45	0.19	0.24	0.38			
PI	0.88	0.65	0.81	0.65	0.63	0.52	0.5	0.63	0.46		
SC	0.86	0.61	0.6	0.47	0.32	0.49	0.71	0.23	0.29	0.58	

**HTMT values CR=Composite Reliability AVE= Average Variance Extracted*

Source: Author's computation using SMART-PLS 3

4.3.2 Structural Model Assessment

The measurement model assessment reported a satisfactory result. The next step was to assess the structural model. Before assessing the structural relationship between the constructs, the issue of collinearity was assessed using VIF. As displayed in Table 4, the VIF value ranged between 1.00 to 1.52, which is below the threshold of 5, signifying no issue of collinearity (Hair et al., 2019).

Table 4: Hypotheses testing results and effect size

	Path	VIF	Path-coefficient	t-value	p-value	Result	F^2	Interpretation
H1	IS -> AT	1.35	0.098	1.898	0.06	Not supported	-	-
H2	NS -> AT	1.48	0.066	1.27	0.20	Not supported	-	-
H3	IN -> AT	1.47	0.134	3.085	0.00	Supported	0.02	Small
H4	VN -> AT	1.38	0.105	2.021	0.04	Supported	0.02	Small
H5	SC -> AT	1.52	0.273	4.591	0.00	Supported	0.10	Small
H6	PS -> AT	1.47	0.180	3.944	0.00	Not supported	-	-
H7	PK -> AT	1.19	0.270	4.498	0.00	Supported	0.12	Small
H8	AT -> PI	1.00	0.679	18.137	0.00	Supported	0.86	Large

Source: Author's computation using Smart-PLS 3

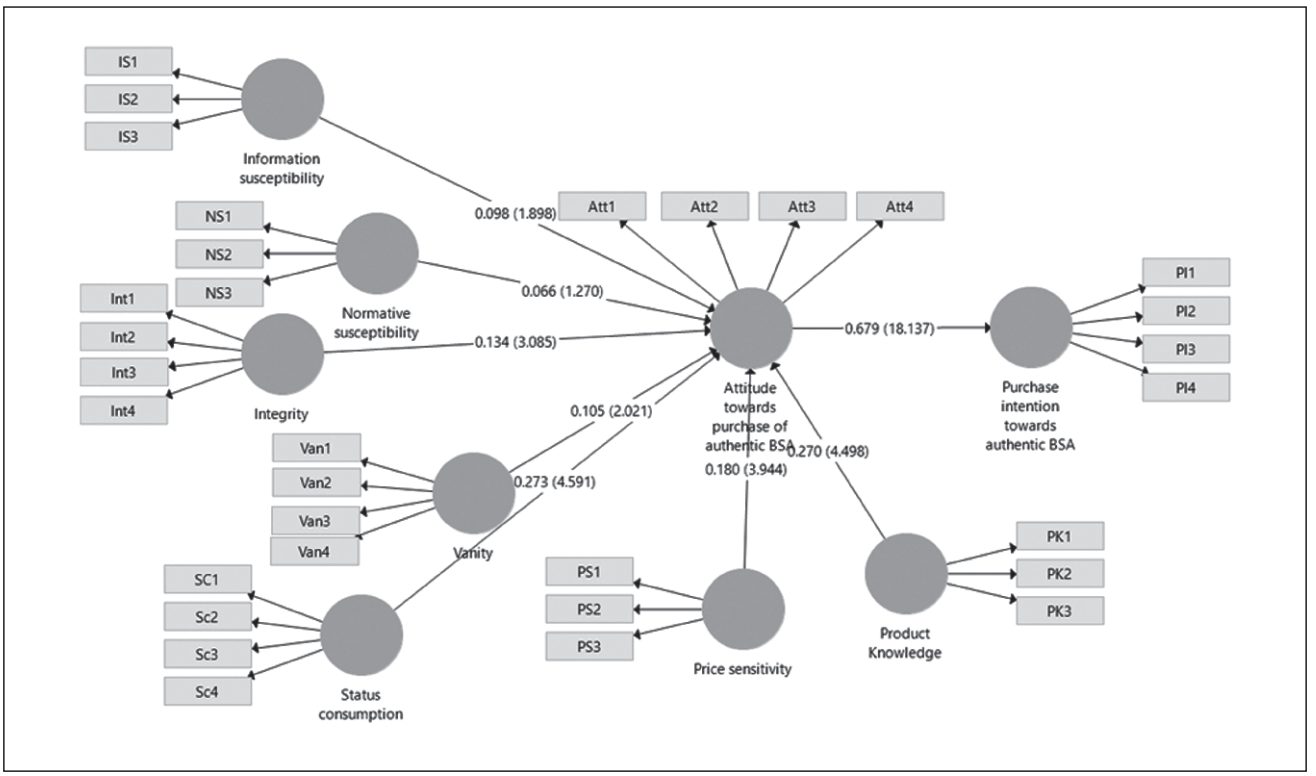
The next step was to check the significance and relevance of the proposed structural model. To check the structural relationship between the constructs, hypotheses were tested using a bootstrapping procedure. The findings are demonstrated in Table 4. In case of antecedents to attitude, the relationship between integrity on attitude (β=0.134, p-value< 0.001); vanity on attitude (β=0.105, p-value<0.05); status consumption on attitude (β=0.273, p-value< 0.001) and product knowledge on attitude (β=0.270, p-value < 0.001) were found positively significant. Thus H3, H4, H5 and H7 were supported. However, the relationship between price sensitivity and attitude, though significant, was not supported because the result proposed positive significance disproving the significant negative relationship as proposed in the hypothesis. Also, the relationship between information susceptibility on attitude and normative susceptibility on attitude was not significant, disproving H1 and H2. The relationship between attitude on purchase intention (β=0.679, p-value < 0.001) was significant, proving H8.

Additionally, coefficient of determination (R^2) predictive relevance (Q^2) and effect size ($+f^2$) were computed to evaluate the quality of the structural model. R^2 depicts the explanatory power of the model (Shmueli et al., 2011). As displayed in Table 5, the R^2 value of two endogenous constructs were 0.51 and 0.46, for attitude towards purchase of BSA and purchase intention towards authentic BSA, respectively, thus, stating that the model explained 51% and 46% of the variance. As per Cohen (1988), the R^2 values of the variables were substantial. The predictive relevance of the model was explained using Geisser's Q^2. The Q^2 values of attitude and purchase intention were 0.33 and 0.30, respectively, thus indicating medium predictive relevance (Hair et al., 2019). Table 4 depicts the effect size f^2 values of the constructs. As per the guidelines of Cohen (1988), the relationship between attitude and purchase intention showed a large effect size with a value of 0.86. On the other hand, all the four variables in relationship with attitude showed a weak effect size ranging from 0.02 to 0.12 (Cohen, 1988).

Table 5: Result of R^2 and Q^2

	R^2	Q^2	Interpretation
Attitude towards purchase of authentic BSA (AT)	0.51	0.33	Substantial
Purchase intention towards authentic BSA (PI)	0.46	0.3	Substantial

Source: Author's computation using Smart-PLS 3



Source: Author's computation using Smart-PLS 3

Fig. 2: Research framework and summary of result showing path coefficient and t-values of constructs

5. Discussion and Conclusion

The findings of the study make a theoretical contribution towards extant literature in many ways. The study uses Ajzen's Theory of Reasoned Action and Theory of Planned Behaviour and thus proposed that attitude does have a significant impact on purchase intention. The results of the study confirm with previous literature that articulated the effect of attitude on apparel purchase intention (Watts, 2018; Wang, 2014; Zheng et al., 2015; and Belleau, 2007). The study contributes to handloom literature (Tridevi et al., 2020; Fush et al., 2015; Moulard et al., 2014; Prathap & Sreelaksmi, 2020) by identifying the antecedents of attitude towards the purchase of the authentic product and also towards extant literature on counterfeited products (Phau & Teah, 2009; Wang et al., 2005; Wilcox et al., 2009; Ang et al., 2001; Moon et al., 2018; Kim & Karpova, 2010, Fernandes, 2013; Bakhshian et al., 2011; Summer et al., 2006; Marcketti & Shelley, 2009). The findings of the study reveal that status consumption (β= 0.273) is the most significant factor influencing the attitude towards authentic Banarasi silk apparel. The result is consistent with earlier studies (Phau & Teah, 2009; Wilcox et al., 2009). This could be due to the fact that handloom apparels are high-priced products made of expensive silk yarn. Thus, wearing a Banarasi silk saree is a reflection of a status symbol, making status consumption the most significant factor. Product knowledge (β=0.270) came out to be the next important factor affecting the attitude towards purchase of authentic Banarasi silk apparel conforming many studies (Hill et al., 2002; Summer et al., 2006; Marcketti & Shelley, 2009; Ghazali et al., 2017; Moon et al., 2018). It is evident that the more the consumers have knowledge about authenticity, the less likely they will fall into the trap of counterfeiters, and hence, they will purchase the authentic product. Integrity (β=0.134) is also a significant factor affecting the purchase of authentic apparel. It can be clearly stated that one's concern for ethics and honesty will always motivate a person to make the authentic purchase and thus prohibit the

use of counterfeits (Phau & Teah, 2009; Ang et al., 2001 and Wang et al., 2005). Vanity (β=0.105) came out to be another significant factor positively affecting the purchase of authentic Banarasi silk apparel. Once concern for appearance and fear of not being embarrassed about the outfit in social gatherings will make them purchase the genuine product even though it is high-priced (Mamat et al., 2016).

Surprisingly, price sensitivity, though significant, positively affects attitude towards purchase of authentic Banarasi silk apparel, disproving our hypothesis, which stated that price sensitivity would negatively affect attitude towards authentic purchase. It has been found in many studies that consumers who are conscious about price tend to purchase counterfeits of luxury brands (Wee et al., 1995; Ang et al., 2001; Wang et al., 2005; Phau & Teah, 2009; Kim & Karpova, 2010). On the contrary, consumers willing to purchase authentic products are not conscious about price, stating negative price consciousness- authenticity relationship. However, in a developing country like India, consumers are more concerned about the price of the product even though the product is high-priced and use of it reflects luxury (Zinoubi et al., 2019). In terms of informative susceptibility, it was assumed that people relying on expert opinion would tend to purchase authentic apparel. However, the results were contrary to this assumption, and information susceptibility was found to be an insignificant factor. An insignificant relationship was also found between normative susceptibility and attitude towards authentic purchase.

5.1 Managerial Implications

This study will facilitate the marketers in establishing a strong product positioning of handloom apparel in general and Banarasi silk apparel in particular. A collective effort of cooperative societies and welfare associations is required for the same. GI certification could be promoted as a confirmation of the authenticity and originality of handloom artisan products. Efforts should be made on increasing the product knowledge of the consumers by popularising GI certification. Short videos should be made to educate consumers on how to identify authentic Banarasi silk. Handloom melas should also be used for educating customers through tutorials on detecting counterfeited apparel.

Government officials and concerned ministries promoting authentic handloom apparel via their verified accounts would help to increase awareness and accessibility on events like Handloom Day etc. Handloom sellers can approach social media influencers such as YouTube vloggers to promote handloom or Banarasi silk apparel on their videos. Social media influencers can share the stories of intricate labour and skill required to make handloom apparel. They can also share the link to purchase authentic handloom apparel so that consumers can easily purchase confirmed authentic products. Availability of easily accessible distribution channels can strengthen the case of authentic handloom. It would enhance consumers' knowledge and develop an appreciation towards authentic products. Integrity can also be used as an emotional appeal by marketers. Understandably, the feeling of integrity cannot be entrusted in a short duration; rather, it is a slow and gradual process. Integrity should be inculcated at a grassroots level. However, marketers can educate consumers through advertisements about the negative impact of using counterfeited products on a weaver's life and the importance of ethical purchase to society. Storytelling ads can be used to do so.

5.2 Limitations and Scope of Further Research

The study proposed a model for antecedents affecting consumer attitude towards purchase of authentic handloom apparel. It should be noted that this is not a comprehensive model due to resource limitations. Other variables can be added in further research to increase the predictive power of this model.

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Appendix

The following were the scaled items used in the study: -

Informative susceptibility adapted from Wang et al. (2005)
IS1- If I have little experience about the authenticity of the Banarasi apparel, I often ask my friends about the product.
IS2- I often consult other people to help choose the best authentic alternative available in the market.
IS3- I frequently gather information about authentic quality from friends and family before making a purchase.

Normative susceptibility adapted from Wang et al. (2005) and Bearden et al. (1989)
NS1- It is important that others like the authentic Banarasi apparel I buy.
NS2- I like to know what kind of apparel makes a good impression on others.
NS3- If other people see me wearing the Banarasi silk apparel, I often purchase the apparel they expect me to buy.

Integrity adapted from Wang et al. (2005) and Colquitt et al. (2011)
IN1- I value ethical purchase.
IN2- I value authentic purchase.
IN3- I value honesty.
IN4- I have strong a sense of justice.

Vanity adapted from Hung et al. (2011)
VN1- I place high emphasis on my appearance.
VN2- My appearance is very important to me.
VN3- It is important that I look good.
VN4- I will make an effort to look good.

Status Consumption adapted from Wilcox et al. (2009) and Ghazali et al. (2017)
SC1- Authentic Banarasi silk apparel is a symbol of social status.
SC2- Authentic Banarasi silk apparel helps me fit into important social events.
SC3- Authentic Banarasi silk apparel will give me social approval.
SC4- I enjoy it when people know I am wearing Banasari silk apparel.

Price sensitivity adapted from Wang et al. (2005) and Lichtenstein et al. (1990)
PS1- I am concerned about the price and quality of authentic Banarasi silk apparel.
PS2- I like to be sure that I get my money's worth when I buy Banarasi silk apparel.
PS3- I like to maximise the quality for the money spent on authentic Banarasi silk apparel.

Product Knowledge
PK1- I am aware that authentic Banarasi Silk Apparel are hand-woven.
PK2- I am familiar with the handloom mark present in authentic Banarasi silk apparel.
PK3- I have great purchasing experience with authentic Banarasi silk apparel.

Attitude adapted from Cheng et al. (2014)
AT1 For me, purchasing authentic Banarasi silk apparel is extremely unfavorable=1 to favorable=5.
AT2 For me, purchasing BSA is extremely undesirable=1 to desirable=5.
AT3 For me, purchasing authentic Banarasi silk apparel is extremely unpleasant=1 to pleasant=5.
AT4 For me, purchasing authentic Banarasi silk apparel is extremely foolish=1 to wise=5.

Purchase Intention adapted from Cheng et al. (2014)
PI1- I am willing to purchase authentic Banarasi silk apparel.
PI2- I will make an effort to purchase authentic Banarasi silk apparel.
PI3- I recommend buying Banarasi silk apparel to my friends and family.
PI4- I intend to buy authentic Banarasi silk apparel in future.

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An Empirical Analysis of the Willingness for Expatriation Assignment: the Role of Career Motivation and Parental Support

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Abstract

The purpose of this study is to examine the effects of prior international experience, career motivation, and parental support on individuals' willingness to accept expatriation assignments. Specifically, this study draws on the social learning theory to explore how previous international experience influences willingness to accept foreign assignments while incorporating the mediating effects of career motivation and the moderating role of parental support. Questionnaire responses were obtained from 260 Indian students studying in India and abroad. The data were analysed using hierarchical regression to test the proposed hypotheses. The results revealed that prior international experience positively affects willingness for international assignment through the mediating role of career motivation. Moreover, the moderating effects of parental support on the relationship between prior international experience and expatriation willingness were also confirmed. Theoretical implications are provided regarding the advancement of expatriation literature beyond the adjustment issues by focussing on individuals' motivation and willingness for such assignments. The practical implications concerning the promotion of experiential learning by educational institutions are also discussed.

Keywords: *Prior international experience; expatriation; career motivation; parental support; expatriation willingness; international assignment; Indian students; social learning theory.*

1. Introduction

International operations have become indispensable and a crucial strategic decision for multinational corporations (MNCs) to gain a competitive advantage in the highly volatile and competitive global marketplace. The current globalised world is witnessing a considerable rise in MNCs' reliance on expatriates to manage their subsidiaries abroad (Caligiuri & Bonache, 2016; Colakoglu & Caligiuri, 2008). Expatriates are responsible for several critical tasks, such as the transfer of skills, knowledge, technology, and the corporate culture to the subsidiary (Gaur et al., 2019; Riusala & Suutari, 2004). They are also entrusted with developing global relations, building new international markets, penetrating the local markets, and nurturing MNCs' corporate culture (Lin et al., 2012). Simply put, expatriates play a central role in managing, controlling, and coordinating operations between the headquarters and the subsidiaries (Dowling, 2004). Given the strategic importance of the role of expatriates in managing overseas operations, it is crucial that they handle global assignments successfully and effectively (Riaz et al., 2014).

However, research suggests that it is incredibly tedious for corporations to select candidates who are a proper fit for cross-cultural assignments (Anderson, 2005). The expatriation literature has ample evidence of unsuccessful assignments where the expatriates lack the requisite motivation, face difficulty in adjustment, fail to show the desired performance, and return prematurely (Dickmann & Doherty, 2008; Safi & Saxena, 2020).

The consequential impacts of failed cross-cultural projects can be perilous to organisations and expatriates alike (Dowling, 2004). Organisations might face a decrease in sales and revenues, a distorted reputation in the market, loss of business opportunities, and disruptive relationships with other countries (Harzing & Christensen, 2004; Shaffer & Harrison, 1998). Also, unsuccessful assignments exact a high cost on expatriates' emotions and psychological well-being (Solomon, 1996). Previous studies show that expatriates who fail to perform on such assignments or return prematurely are prone to psychological damage, such as reduced self-esteem, low motivation, loss of respect and prestige, and damaged career path (Shaffer & Harrison, 1998). Given the higher stakes involved in overseas assignments, there is a need to understand the motivation and willingness of employees better while selecting them for global assignments. If an employee is willing and motivated to work in a cross-cultural setting, he/she is more likely to overcome adjustment difficulties than a person who is not ready for such an assignment. Therefore, to prevent failure and premature return of expatriates and to increase the likelihood of success, it is suggested that organisations should strive to identify well-suited employees who are motivated and willing to work in foreign settings. Since students of engineering and management background are potential employees of MNCs and could become future expatriates, it could be potentially viable to study their career motivations and what influences their decision to undertake international assignments. Also, India being the second-most populous country in the world, produces millions of graduates every year, a considerable portion of which ends up working in the west (Mehta et al., 2006; Sharma, 2003). According to a study by the University of California, Berkeley, people of Indian descent constitute one-third of the total engineers in Silicon Valley, and 7% of the hi-tech firms of the valley are led by Indian CEOs (Non-Resident Indians Online, 2020). Not only this, but India also boasts of having a vast pool of scientific and engineering talent in the world (Thite et al., 2009). Therefore, given that the Indian diaspora contributes significantly to the economy, the study on Indian students should provide valuable insight into the willingness to take up foreign assignments.

The literature on international assignment has primarily focused on adjustment as the most prominent reason for expatriate failure (Black & Gregersen, 1991). Besides adjustment issues, other potential causes of expatriate failure have also been investigated, such as problems in selection criteria, lack of pre-and post-departure training programs, organisational and family-related factors, and individual personality-related factors. However, relatively little attention has been paid to understand the factors that lead to employees' decision to accept international job offers. Prior international experience (PE) and career motivation (CM), in this regard, are essential aspects that need to be examined. Practitioners and scholars have widely researched PE for its role in developing cultural intelligence and facilitating the adjustment of expatriates (Lee & Sukoco, 2010). However, its role in building CM and willingness to work abroad needs to be further explored. CM is another important psychological component that plays a significant role in the career decision-making process (Burgard, 2003). Therefore, it would be worthwhile to study its effect when a decision regarding an international work assignment is to be made. This study also investigates the role of parental support (PS), which is an essential factor

that Indians look up to while taking up important life decisions.

Hence, the purpose of this study is to empirically examine the role of PE, CM, and PS in determining individuals' expatriation willingness (EW). Our study contributes to expatriation literature in four ways. Firstly, we add to the literature by testing the effect of PE on willingness to work abroad through the mediating effects of CM. We also introduce PS as a moderator in the study to test its impact on the relationship between CM and EW. Next to this, we apply social learning theory to explain how PE influences the willingness to accept an expatriate assignment. Lastly, we test our model in the Indian context, a country that is a dominant source of expatriates due to its large pool of skilled and English-speaking labour force (Thite et al., 2009; Vijayakumar & Cunningham, 2016).

The next section presents the theoretical background of our study and hypotheses development.

2. Theoretical Background and Hypotheses Development

The expatriation literature has identified several factors or motives that lead to individuals' decision to work abroad. These motives can be broadly categorised as financial, family, exploratory, refugee, and architect motives (Vijayakumar & Cunningham, 2016). Financial motives are concerned with individuals moving to foreign nations for financial and monetary reasons. Family motive relates to family considerations while taking up expatriation assignments. Exploratory motives refer to the desire to explore the world and have an international experience. Refugee motives relate to escapism, i.e., when an individual moves abroad to avoid some situations in life. Finally, the architect motive is concerned with career development and having some attractive job conditions (Dickmann et al., 2008; Oberholster et al., 2013; Vijayakumar & Cunningham, 2016).

While studying the individual and organisational perspectives on expatriation motives, Dickmann et al. (2008) found that organisations often underestimate the significance of career motives and overestimate the financial motives. Furthermore, individuals' personality traits and language proficiency have also been investigated as determinants for their willingness to do foreign assignments (Ipek & Paulus, 2021; Li et al., 2020). However, Lee et al. (2019) argued that the research on expatriation motives and predictors had been restricted to examining the contextual and demographic factors only and that there is a paucity of research focussing on individual-centric experiential learning and cognitive factors that provide motivation for expatriation assignments. Thus, the present study focuses on examining the role of individuals' experiential learning in the form of their intercultural experience gained through international travel and the cognitive factors which can be assessed through their career motivation. Furthermore, since the subject of the study is students who are yet to confront job and family/spouse related issues, the international experience and career motivation are expected to be more relevant and viable predictors for their expatriation willingness than the contextual and other financial factors.

Besides, given that the Indian family system is characterised by parents having much influence on their children's studies and careers (Premkumar et al., 2018), their role and support in their children's international career decisions cannot be ignored. Thus, the study has used the role of PE, CM, and PS as influencing factors for Indian students' international career willingness. The following section discusses the hypothetical path relationships.

2.1 Prior international experience and willingness for expatriation

Prior international experience is a multidimensional construct comprising several aspects (Takeuchi et al., 2005). This study uses students' travel experience to other nations for work, leisure, or academic purposes as international experience. Previous research argues that international experience helps in getting exposure and first-hand experience of new cultures, making an individual more confident and motivated about the idea of working in foreign settings (Lee & Sukoco, 2010; Lee et al., 2019). This argument can be well supported by Bandura's (1977) social learning theory, which posits that people acquire new patterns of behaviour through observation and experience. As Bandura (1977) states, social learning comprises observation, modelling, and imitation of observed behaviours. When students (the subject) visit foreign countries, they directly observe and experience the norms, customs, and behavioural patterns of those cultures (Takeuchi et al., 2005). These experiences (models) provide an excellent opportunity to imitate the observed behaviours. The learnings acquired through direct observation and experience help students understand the nuances of different

cultural scenarios, giving them the confidence to handle the difficulties of cross-cultural assignments. In particular, the students who have been to a foreign nation before are more likely to imitate, i.e., accept an international assignment at a later time.

Therefore, international experiences are believed to help students imbibe the cultural norms and behavioural requirements of foreign nations by observing and experiencing them in real. This may stimulate a sense of desire to be a part of that culture, and they may be willing to relocate if offered an assignment abroad. Previous literature has shown a positive association between international experience and willingness to expatriate (Shaffer & Miller, 2008). Lee et al.'s (2019) study on 370 students revealed that students' international travel experience was significantly associated with their willingness to accept the expatriation assignment. Learning by experiencing is expected to make people better equipped with skills to handle adjustment challenges (Kim & Slocum, 2008). In particular, people with more prior experience may be more ready, confident, and willing to work internationally than those with less or no such experience. Based on these arguments, we propose the following hypothesis:

H1. Prior international experience is positively related to willingness to accept an expatriate assignment.

2.2 The mediating role of career motivation

Career motivation is an important psychological variable that plays a vital role in the career decision-making process (Burugard, 2003). The career motivation theory proposed by London (1983) attempts to explain various career and work-related behaviours such as searching for new jobs, accepting a job, the decision to leave or stay with an organisation, seeking new job experiences, and setting up and accomplishing career goals. CM is conceptualised as a multidimensional construct that is organised into three domains: (a) career resilience, which is the ability to adapt to changing circumstances; (b) career insight, which includes establishing realistic career goals; and (c) career identity, which relates to factors reflecting career decisions and behaviours (Grzeda & Prince, 1997; London, 1983).

Studying the CM of students, especially for expatriation assignments, should provide valuable insight into what drives an individual to undertake an assignment abroad. An individual may travel to other nations for academic and work purposes, obtain a degree, or a vacation with family and friends. The international experiences that individuals gain help boost their confidence to be flexible enough to adapt effectively to different cultural settings (Lee & Kartika, 2014). Not only this, extended exposure to other cultures may help in developing comprehensive cognitive schemata and self-efficacy optimism that can influence work-related attitudes and behaviours (Kim & Slocum, 2008; Lee & Sukoco, 2010). Also, the direct experience of other cultures may provide the right insight and facilitate the formation of accurate work expectations.

The researchers in the area contend that an international experience helps individuals in building career capital, which eventually leads to career success (Jokinen et al., 2008; Suutari et al., 2018). Also, the career adaptability of students has been linked positively to overseas career intentions (Presbitero & Teng-Calleja, 2021). Along the same lines, we argue that the career capital gained through the international experience will equip individuals with various competencies required to work in global settings and facilitate access to future opportunities. These competencies and the access to knowledge and opportunities are likely to further strengthen their career motivations. The literature has also highlighted that the students who have the experience of overseas' degrees or internships are more motivated and inclined to nurture their career using the contacts and the cultural familiarity they gain abroad (Ryan et al., 2013). Consequently, international experience can act as a driving factor for students' future career aspirations, making them more confident and motivated to realise their career goals.

Furthermore, Bandura (1977) in social learning theory suggests that mediation processes take place between stimuli and responses and that the subjects must first learn the behaviours from the environment before they can reproduce or imitate them. Likewise, we argue that international experience (the stimulus) through a series of learning and observations helps students develop motivation towards career, and they are more likely to be willing to accept (response) international assignments in the future. A recent study in this area of inquiry also emphasised the importance of international experience and career motivation on individuals' global work aspirations (Akkan et al., 2021).

Hence, individuals with more international experience may develop high CM and be more willing to work on an expatriate assignment. Based on the above discussion, the following hypothesis is proposed:

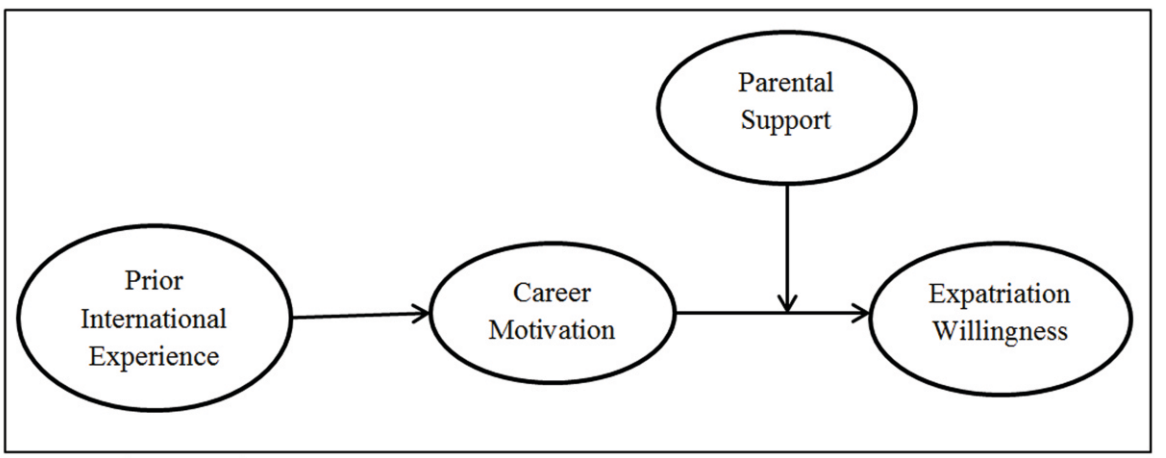
H2. Career motivation mediates the relationship between prior international experience and willingness to accept an expatriate assignment.

2.3 The moderating role of parental support

Parents are the primary socialisation agents who have the power to influence their children's career choices (Burgard, 2003). In a country like India, parents have a prominent place and role in the family. They are valued for their role in disseminating knowledge and wisdom to the younger generation. Their role and support become even more critical during important life events like career-decision, marriage, and parenthood (Paltasingh & Tyagi, 2017). Therefore, their support becomes imperative when a decision regarding international assignment is to be made.

Prior literature has shown a positive association between PS and the career decision-making of students (Alliman-Brissett et al., 2004; Berrios-Allison, 2005). Parents support their children's career decisions in several ways: by encouraging them verbally to participate in educational and career-related activities; facilitating instrumental assistance by guiding their educational and career choices; and providing emotional support to their children by communicating with them about their career goals (Alliman-Brissett et al., 2004; Stringer & Kerpelman, 2010). PS in all these forms tends to develop career-decision self-efficacy among children (Alliman-Brissett et al., 2004). Thus, the relationship between CM and choosing a career path is strengthened when students get favourable support from their parents. In particular, PS becomes vital when a decision regarding an international career is to be made. In this context, motivated students' willingness to accept expatriation assignments is likely to get strengthened if favourable support is provided by parents. In the absence of such support, the positive effect of their CM on willingness to work abroad is expected to reduce. Accordingly, we propose the following hypothesis:

H3. Parental support moderates the relationship between career motivation and willingness to expatriate. Specifically, the positive and favourable support from parents strengthens the relationship between career motivation and willingness to expatriate.



Source: Authors' compilation

Figure 1. Hypothesised model

3. Methodology

3.1 Sample

The sample for this study consists of Indian students enrolled in engineering and management programs in India and abroad. A structured questionnaire was developed in English to solicit the responses. Using purposive sampling, we invited six faculty members employed in two prominent educational institutions in India. These institutions were also engaged in the students' exchange program with foreign universities. We explained to the faculty members the objective of the study and the method to undertake the survey. With their assistance, an email containing the survey link was sent out to 340 students studying in India and abroad. The participants were assured of their anonymity and that their responses will be used for academic and research purposes only. They were also informed about the voluntary nature of participation and that they could choose to opt out at any point during the online survey. A reminder email was sent after two and four weeks of the initial posting of the survey. After running the survey for about six weeks, a total of 288 questionnaires were returned, resulting in an 84% response rate. Out of these 288 questionnaires, 28 were deleted during the initial screening and data cleaning process. Finally, 260 responses have been used in the analysis of this study.

Regarding the sample's demographic characteristics, 160 respondents (61.5%) were females, and 100 (38.5%) were males. Approximately 50.4% of the respondents were in the age bracket of 25 years and less (n= 131), followed by 48.8% (n=127) in the 26-35 years age group. Only two respondents (0.8%) fell into the 36-45 years category. Most of them were unmarried (n=213, 81.9%). One hundred fifteen respondents (115, 44.2%) were enrolled in the bachelor's program; 110 (42.3%) in masters, and the remaining 35 (13.5%) were enrolled in a PhD program.

3.2 Measures

Prior international experience was measured using three items adopted from Lee et al. (2019). Respondents were asked to indicate their previous international travel experience on a scale ranging from 1= "zero" to 5= "more than six". Sample items include: "how many times have you travelled internationally for business, leisure, or academic purpose?" and "how many foreign countries have you ever visited for business, leisure, or academic purpose?"

Career motivation was measured using the scale items adapted from Farmer's (1985 cited in Burgard, 2003) career motivation scale. Items from the measure include: "I enjoy making plans about my future" and "I like to have a career goal toward which I can work". A five-point scale ranging from 1 = strongly disagree to 5 = strongly agree was used.

To measure the moderating variable, i.e., parental support, we asked the respondents whether their parents would support for international assignment or not. PS was operationalised as a dichotomous variable where 0 indicated "parents do not support for international assignment" and 1 indicated "parents support for an international assignment.

Expatriation willingness was measured using the scale items adopted from Lee et al. (2019). Students rated their willingness to accept expatriation assignments on a five-point scale ranging from 1 = strongly disagree to 5 = strongly agree. Sample items are "I consider myself to be capable for an international career" and "I want an expatriate assignment sometime in my career".

To avoid other potential confounding effects, we controlled for some demographic variables that have been reported to be related to willingness to work abroad. These are gender and age (Selmer & Lauring, 2012), marital status (Konopaske et al., 2005; Lê et al., 2010), and education (McNulty et al., 2017). Age was assessed with multiple year ranges, starting with 1 = "25 years or less" up to 5 = "56 years and above". Other demographic variables were measured as follows: gender (0= male, 1= female), marital status (0=unmarried, 1= married), and education (0= Bachelor's, 1= Master's and 2= PhD).

4. Results

4.1 Descriptive statistics

The descriptive statistics such as means, standard deviations, correlation coefficients, and reliability measures (Cronbach's Alpha) are presented in Table 1. The correlation coefficients were found significant between all major variables. Besides, the Alpha values greater than 0.8 for all constructs demonstrate good internal consistency reliabilities (Nunnally, 1978).

Table 1: Descriptive statistics and correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8
Gender	1.62	0.48	1							
Age	1.52	0.58	-0.08	1						
Education	1.69	0.69	0.09	0.35**	1					
Marital status	1.18	0.38	0.00	0.28**	0.20**	1				
PS dummy	0.58	0.49	-0.04	-0.01	-0.05	0.01	1			
PE	2.84	0.70	0.16**	-0.11	-0.09	-0.10	-0.18**	(0.88)		
CM	3.55	0.61	0.15*	-0.03	-0.01	0.01	-0.22**	0.45**	(0.88)	
EW	3.98	0.82	0.01	0.01	-0.07	0.01	-0.38**	0.42**	0.62**	(0.90)

*Note: N=260; *p < 0.05, **p < 0.01. Values within parentheses represent reliabilities. PS = Parental Support, PE = Prior International Experience; CM = Career Motivation; EW= Expatriation Willingness.*

Source: Authors' compilation.

4.2 Confirmatory factor analysis

As recommended by Anderson and Gerbing (1992), we first checked if our study constructs were distinct. Therefore, confirmatory factor analysis (CFA) was conducted on the measurement model using AMOS IBM 22.0 to check the distinctiveness of PE, CM, and EW. First and foremost, the scale items with standardised regression weight less than 0.50 were removed (Hair et al., 2009). Table 2 presents the final CFA results. As shown in the table, only scale items with factor loadings above 0.50 were retained in the final analysis. The overall model fit was assessed using factor loadings, chi-square (χ^2)/degree of freedom (df) result and other global fit indices like the Goodness of Fit Index (GFI), the Adjusted Goodness of Fit Index (AGFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Incremental Fit Index (IFI), the Root-Mean-Square Residual (RMR), and the Root-Mean-Square Error of Approximation (RMSEA). The obtained values were within the prescribed limits. The χ^2/df (CMIN/df) was below 3, as suggested by Cheng (2007). The GFI, CFI, TLI, and IFI values were well above the cut-off of 0.90 (Arbuckle, 2003; Cheng, 2007). The AGFI value was above the suggested threshold of 0.80 (Cheng, 2007). Finally, the badness of fit indices, i.e., RMR and RMSEA, were below 0.10 (Arbuckle, 2003; Cheng, 2007). The obtained fit indices indicate that the proposed model was statistically significant, and the data adequately fit the model (Hair et al., 2009). We also calculated the scores for Composite Reliability (CR), Average Variance Extracted (AVE), and Maximum Shared Variance (MSV) to ensure the convergent and discriminant validity of study measures. The obtained values for AVE and CR were well above the cut-off limits of 0.50 and 0.70, respectively (see Table 2), ensuring convergent validity (Fornell & Larcker, 1981). Furthermore, AVE values greater than their corresponding MSV for all constructs establish discriminant validity (Hair et al., 2009).

Table 2: Confirmatory factor analysis results

Items	Loading	CR	AVE	MSV	Statistics for model fit indices
Prior International Experience (PE)					
PE1: How many times have you traveled internationally for business, leisure, or academic purpose?	0.861				
PE2: How many foreign countries have you ever visited for business, leisure, or academic purpose?	0.925	0.896	0.744	0.182	
PE3: How long did you live in foreign countries?	0.831				$\chi 2$= 55.431, df=32, p-value= 0.006 $\chi 2$ / df = 1.95, GFI= 0.95, AGFI= 0.92, CFI = 0.98, TLI = 0.98, IFI= 0.98, RMR= 0.03, RMSEA = 0.05
Expatriation Willingness (EW)					
EW1: I want an expatriate assignment sometime in my career.	0.855				
EW2: I consider myself to be capable for an international career.	0.875	0.902	0.754	0.329	
EW3: I would seriously consider an international assignment.	0.858				
Career Motivation (CM)					
CM1: To me, a career is a means of expressing myself.	0.729				
CM2: I would like to have a job of which I am really proud.	0.863				
CM3: I like to have a career goal toward which I can work.	0.876	0.891	0.675	0.329	
CM4: My career will give meaning to my life.	0.795				

Notes: CR = Composite reliability;
AVE = Average variance extracted; MSV = Maximum shared variance.
Source: Authors' compilation.

4.3 Hypotheses testing

We used multiple hierarchical regressions in SPSS IBM 22.0 to test the direct and indirect effects. Table 3 presents the results for regression analysis. Model 1 is a baseline model that shows the impact of the control variables on EW. None of the control variables was significantly related to EW. In Model 2, the PE was entered, which showed a direct positive impact on EW (β= 0.43, $p < 0.001$). Thus, hypothesis 1 was supported. Also, the addition of PE in M2 accounted for an increase in variance to 18.3% and made the model statistically significant. The acceptance of hypothesis 1 depicts that prior international travel experience in the form of academics, work, holiday, or simple leisure positively affects the desire for taking up an expatriation assignment in the future among students.

Hypothesis 2 stated that CM would mediate the relationship between PE and EW. We followed the four-step procedure of Baron & Kennny (1986) to test the mediating effects of CM. The positive association of PE with EW in hypothesis 1 satisfies the first step of the mediation procedure. Furthermore, Model 5 (Table 3) showed a significant positive effect of PE on CM (β= 0.44, $p < 0.001$), satisfying the second step. Thus, PE was significantly related to CM and EW. In the next step, CM also showed a positive and significant relationship with EW (M3, β= 0.63, $p < 0.001$). Thus, the first three steps of mediation were satisfied. To check the final step, we ran a multiple regression with both PE and CM as independent variables. As can be seen in Model 4, the PE-EW relationship got significantly weekend, and the beta coefficient of PE dropped from 0.43 to 0.19. The results indicate that CM mediates the relationship between PE & EW. We further performed the Sobel (1986) test to substantiate the mediating effects of CM. The Sobel test statistics of 6.21, significant at $p < 0.001$, confirmed that CM partially mediated the PE-EW relationship. Hence, Hypothesis 2 was supported. The support for hypothesis 2 shows that the prior international experience acts as a

driving force among Indian students and has the potential to make them even more motivated to realise their career aspirations. Increased career motivation, in turn, positively influences their intention for a foreign assignment in future.

Finally, Hypothesis 3 predicted that PS would moderate the relation between CM and EW. Since PS is a categorical moderator in our study, we used multi-group analysis to test its moderating effects (Little et al., 2007). To operationalise this, we split our sample into two groups. One group comprised students who do not think their parents will support them for an international career (Low), and the other group comprised students who believe that their parents will support them for an international career (High). Table 4 presents the results of multiple regressions for moderating effects of PS for both groups. Model 1 and 2 in Table 4 show that the regression results are positive and significant for the students with high PS and also for students with low PS. Thus, Hypothesis 3 was supported that predicted that PS moderates the relationship between CM and EW. Even though the relationship was positive and significant for both groups, this relationship was stronger for students who had favourable support from their parents ($\beta = 0.62$, $p < 0.001$). Furthermore, we checked if there is a significant difference between the slopes of these two groups using Soper's (2021) online slope difference calculator. The results (t-statistics = 2.39, degree of freedom = 256, $p = 0.01$) revealed that the difference in slopes for the two groups was statistically significant. Figure 2 graphically depicts the slope analysis results for the moderating effects of PS. The support for hypothesis 3 concerning the moderating effects of PS confirms the importance of parents' opinions and support in Indian students' career decisions. The results show that parents are an integral part of the decision-making regarding an international assignment, especially among Indian-origin students.

Overall, the results uncover that PE, CM, and PS all have a role to play in Indian students' willingness for overseas assignments. The relevance of PE in influencing EW has been confirmed in past studies (Akkan et al., 2021; Lee et al., 2019). Moreover, career-related factors have also shown a growing trend in EW literature. Regarding PS, the current study revealed its significance in influencing expatriation related decisions, especially among Indian students. Simply put, since the variables investigated in the present study were found to significantly impact EW, they should be carefully considered and addressed while selecting a candidate for foreign assignments. This may result in reducing failure and having successful expatriation assignments to a great extent.

Table 3. Regression analysis results of direct and mediating effects

Variables	**Expatriation willingness**				**Career motivation**
	M1	M2	M3	M4	M5
	.	β	β	β	β
Controls					
Gender	.020	-.053	-.079	-.098	.082
Age	.043	.067	.053	.063	.008
Education	-.100	-.071	-.081	-.071	.001
Marital Status	.020	.051	.004	.020	.057
Independent Variable					
Prior international experience		0.438***		0.192***	0.449***
Mediating variable					
Career motivation			0.633***		
R^2	.008	.191	.398	.426	.218
Adjusted R^2	-.007	.176	.386	.413	.203
ΔR^2	.008	.183	.390	.418	.192

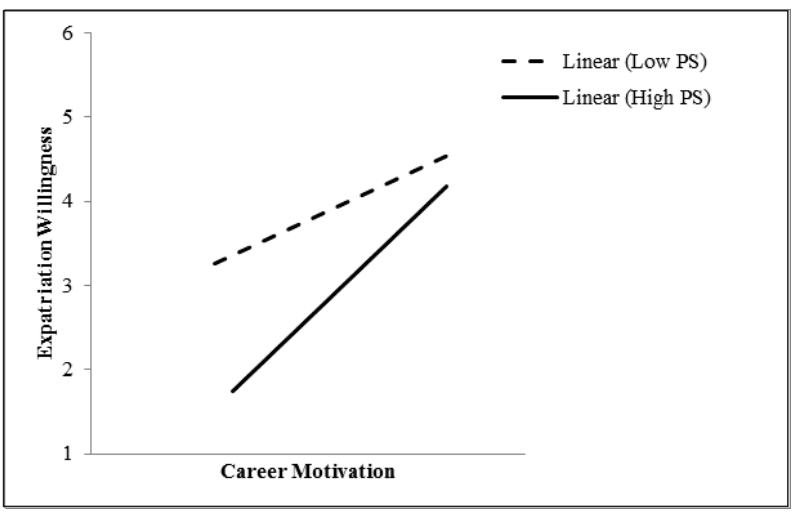
****p<0.001*

Source: Authors' compilation.

Table 4: Regression analysis results of moderating effect

Variables	Expatriation willingness	
	M1 β	M2 β
Controls		
Gender	-.232	-.044
Age	.052	.059
Education	-.090	-.092
Marital Status	-.020	.027
Moderating Variable		
Career Motivation * Low PS	0.512***	
Career Motivation * High PS		0.624***
R^2	.281	.399
Adjusted R^2	.246	.379
ΔR^2	.250	.375

****p<0.001. PS= Parental Support.*
Source: Authors' compilation.



Source: Authors' compilation.

Figure 2: Moderating effects of parental support

5. Discussion

EW is an effective mechanism to facilitate successful overseas assignments by selecting the candidates who are actually willing to take up such assignments. Our study provides an insight into the factors that influence an individual's willingness to take an expatriation assignment. Specifically, we tried to understand the factors that sow the seeds of international assignments in students much before they actually start to work in an organisation. Drawing on the social learning theory, we argued that the more individuals have international travel experience, the more willing they would be for an international career in the future. We also argued for the mediating role of CM. Specifically, we predicted that CM would mediate the positive effects of PE on willingness to expatriate. Moreover, considering the primacy of parents' support in

Indian society, we checked for the moderating effects of PS on the relationship between CM and EW. We controlled for the effects of gender, age, education, and marital status while testing the relationship between our study variables. Three hypotheses were developed after a review of the literature. The results obtained through hierarchical regression analysis provided support to all hypotheses.

In the first hypothesis, we tried to gauge the impact of PE on EW among Indian students. The results revealed that PE was positively and significantly related to EW, accounting for 19% of the variance caused in EW. The findings help us to conclude that international exposure gained through travelling and other work and academic-related activities is crucial for the motivation and desire to be a part of that culture by living and working there. We believe that having some international experience would help individuals build a perspective about what to expect in a foreign nation, and they could be more comfortable and willing to accept an international assignment if offered in the future. This finding is consistent with Lee et al. (2019), who emphasised the importance of PE in developing EW.

This study also analysed the indirect effect of PE on EW through CM. We found support for the partial mediation of CM on the relation between PE and EW. Thus, the total variance in EW accounted for by PE is partly caused by its direct effect and partly caused by its indirect effect mediated through CM. Hence, we can interpret that PE increases the CM in students, which in turn leads to an increase in their desire to work on foreign assignments.

In the last hypothesis, we examined the moderating role of PS on the relation between CM and EW. Our results revealed small but notable effects of PS as a moderating variable. Simply put, the relationship between CM and EW was positive and significant for both the groups, i.e., the one who believes their parents would favour an international assignment and the other who thinks their parents would not want them to work abroad. However, the relationship between CM and EW was stronger for the group that received favourable PS. Thus, in regard to the moderating role of PS, albeit small, but PS does affect the relation of CM and EW.

The findings provide novel insights and widen the scope of expatriation literature by helping organisations find the proper fit for cross-cultural assignments. As it has been highlighted in the literature that many international assignments fail due to poor fit between the candidates and the job assignment, the organisations can benefit by selecting the candidates who are actually willing for such assignments. Individuals with prior international experience may already be aware of the cultural challenges one encounters when moving abroad. Thus, selecting a candidate with prior experience may help in lowering the probability of assignment failure. In a similar effort, special training programs may also be provided regarding the career benefits and perks associated with having international work experience. Furthermore, since parental support was also found to have an essential role in students' expatriation willingness, counselling sessions for parents and the students may also be organised to make them aware of such assignments and address any queries they might have.

To conclude, a picture that seems to emerge from our findings is that the investigated variables, i.e., PE, CM, and PS, are pivotal in explaining intentions for expatriation assignments in individuals. Due to the fact that failed assignments can be exorbitant, the organisations can devise plans for understanding the motivation and willingness of employees before selecting them for such responsible tasks. Thus, the study widens the scope of expatriation literature by going beyond the adjustment issues and focusing on what could influence employees' intentions for foreign assignments and how organisations can understand and utilise their experience and motivation in having successful cross-cultural assignments.

6. Theoretical and Practical Implications

The findings of this study provide insights into the factors that influence international career decisions among individuals. Regarding the theoretical contribution, this study supplements the literature on EW as well as the general studies on CM and the role of parents in career decision making. The existing research on EW mostly focused on gender, family status, and spouse influence as predictors (Chew & Zhu, 2002; Konopaske et al., 2005; Tharenou, 2008). In the present study, we integrated the experiential learning gained through PE, a cognition related factor, i.e., CM, and an external factor, i.e., PS, to understand how they influence an individual's intentions for a foreign assignment. Besides, the two variables, 'CM' and 'PS' are well documented in domestic career-making decisions (Alliman-Brissett et al., 2004; Stringer & Kerpelman, 2010). However, they are not very well-research in the expatriation context. This study introduces the two variables to empirical EW literature. Furthermore,

our study enriches the literature by clarifying how PE influences EW through CM.

The study has some practical contributions also. Our findings suggest that international experience amplifies CM and EW amongst students. Hence, to nurture students' career aspirations, educational institutions might engage in promoting experiential learning. Efforts should be made to provide international exposure by sending students abroad for training and internships. Institutions can also collaborate with foreign universities and encourage student exchange programs. These initiatives can go a long way in developing awareness of different cultures and helping students build appropriate work expectations. Prior exposure to foreign cultures can make students more comfortable and willing to accept international assignments in the future.

Our study has managerial implications as well. Based on our findings, we recommend that employees with a high degree of CM should preferably be considered while selecting candidates for foreign assignments. CM can be gauged through human resource analytics and other performance management tools. It can also be reinforced by certain organisational initiatives aimed at encouraging international assignments.

7. Limitations and Directions for Future Research

There are a few limitations that we found worth recognising. Firstly, common method bias (CMB) could be a potential problem in this study since all the variables were measured through a self-reported questionnaire (Podsakoff et al., 2003). We made several attempts to alleviate the impact of CMB. For example, the items measuring the independent and dependent variables were randomly placed in the questionnaire. Besides, some items were reverse coded to prevent response bias. We made sure that all items in the questionnaire were easy to interpret. We also assured the respondents of confidentiality and anonymity of their responses. Nonetheless, all these attempts cannot completely rule out the possibility of CMB in the study. In terms of measuring CM and EW, while it is logical to solicit data directly from the students or employees, future researchers would be advised to use multiple sources of data collection to minimise the effects of CMB.

Secondly, this research focused on the moderating role of PS only. Future researchers can also study the role of family support in influencing EW, especially for married individuals. The pivotal role of spouses and children in the context of expatriation is well documented in the literature (Chew & Zhu, 2002; Konopaske et al., 2005). It would be interesting to see how family factors interact with CM to decide intentions for foreign assignments.

Thirdly, EW can be impacted by several additional factors. Future researchers can integrate the variables used in this study with several additional factors, such as cultural intelligence and resilience. As discussed in the literature review, the various motives for cross-cultural assignments could also be examined to see how they vary for different demographic factors. Finally, this study is limited by its narrow focus on Indian students' EW; therefore, additional research is warranted to see whether the findings of this study hold true for other nations' students or not.

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The Trends on Negative Customer Engagement: A Historical Review with Bibliometric and TCCM Analysis

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Abstract

With the emerging importance to study negative customer engagement, the goal of the paper is to present the studies done on negative customer engagement from 2008 till January 2021. Out of 117 articles, 40 articles were selected after the filtering procedure. These articles were then analysed according to their year of publication, geographical distribution, authorship, article impact and frequency of keywords by keyword co-occurrence analysis using VOS viewer. Later Theory, Context, Characteristics and Methodology (TCCM) analysis was done to understand the type of theories, contexts, characteristics, and methodologies studied till now. Later future directions are presented from the insights of two analyses to extend the research on negative customer engagement.

Keywords: *Negative Customer Engagement, Literature review, Bibliometric analysis, TCCM*

1. Introduction

Today, the role of consumers has changed from mere audience to someone who observes, who initiates, who participates and now to someone who co-creates by way of interactions between the focal firm, the brand or some other consumers. From the literature, it is evident that until 1990, marketing was all about customer transactions, which just focused on firm profitability. Gradually, between 1990 and 2000s, the focus of marketing shifted from a transaction perspective to building positive customer relationships to obtain loyalty and satisfaction from the customers (Morgan & Hunt, 1994). Recently marketers and academicians realised that it was not enough to earn customers' satisfaction and loyalty; they should use some differentiation which would help them gain a competitive advantage. This has resulted in changing the goal of the firms from developing relationships to engaging the customers in all possible ways (Kumar & Pansari, 2017). The construct customer engagement (CE) was first given by "Advertising Research Foundation" in 2006. Brodie et al. (2011) have defined it as "a psychological state, which occurs under interactive customer experiences with a focal object". In contrast, Hollebeek et al. (2014) have defined it as "a consumer's positively valenced brand-related cognitive, emotional and behavioural activity during or related to focal consumer/brand interactions". Real-world examples of customer engagement like advertisements of Coco-Cola ("Hello Happiness" campaign) and Dove ("real beauty sketches") have been successful in creating interactions related to brands and thus in a way engaging their customers in all ways possible. Hence now, the topmost priority of the firms is to create emotional bonding with their customers rather than focusing only on the selling as it would lead to greater satisfaction in the relationships among the engaged partners and would thus experience deeper emotional connections (Kitayama et al., 2000).

The research from the last few years has focused on the positive side of customer engagement (Bowden, 2009; Sashi, 2012). Recently, the focus has been shifted to the negative perspective of customer engagement. The concept 'negative customer engagement is more important to take into consideration than positive customer engagement as negative stimuli would have more effect in comparison to a positive one (Sinclair et al., 2015). The negative customer engagement would lead to various harmful behaviors towards the firms like negative W-O-M, reputation damage and also threat to firms in a way claiming compensation or filing legal cases. Hence this concept becomes important from a managerial perspective as it would lead to value co-destructions by contributing the negative thoughts to others (Dolan et al., 2016). Considering the importance of studying negative customer engagement and its effects, this study attempts to understand the development and recent trends on negative customer engagement to draw researchers' attention towards this emerging and essential construct. And for that reason, this study has employed bibliometric analysis and the TCCM framework and highlighted the gaps that would provide the opportunities to carry out future research.

This study is a contribution in the segment of negative customer engagement, which would help the researchers in recognising the gaps from the studies done till present to find the factors that lead to such negative engagement and thus how they can formulate the strategies in order to cope up with these negative engagement behaviours.

The first part of the article explains the methodology that has been undertaken to select the relevant articles from the database by appropriately writing the key terms in the database and the type of software used for performing bibliometric analysis. After selecting the articles and database, the next portion consists of the analysis part, which shows the bibliometric analysis results. After that, keyword co-occurrence analysis is performed using the VOS viewer to show the important and most used keywords from the literature. Subsequently, TCCM is done for the articles selected, segregating them into theory development, context, characteristics, and methodology. Finally, this article concludes with the discussion and conclusions on the analysis done for negative customer engagement.

Thus the paper is using tools like bibliometric, TCCM and keyword co-occurrence analysis to identify the trends going on in negative customer engagement as Comerio and Strozzi (2019), Strozzi et al. (2017) and Kim et al. (2016) proved these innovative tools as potential identifiers for the upcoming research topics. So the scope of this paper is to use these tools and highlight and suggest new trends concerning negative customer engagement to encourage future studies. Some of the trends that have been emerged from these tools include the type of methodology used in most of the studies concerning negative customer engagement, which is qualitative; also, these studies have been used mostly in the online context. The trend showed that after 2018 there is a rise in the research concerning negative customer

engagement. No concrete theory is developed to understand the negative engagement phenomenon. Hence by highlighting the trends, this study offers various future research directions which would help to develop negative customer engagement with a wider scope.

2. Brief Overview of Negative Customer Engagement

It is necessary to understand that not every service relationship tends to be intrinsically positive (Evanschitzky et al., 2012). Previous literature has shown that compared to positive relationships, negative relationships occur more often (Fournier & Alvarez, 2012). They found out that 55% of the population has negative relationships, while 45% have positive relationships with the firms or service providers. And so for this reason, Morgan and Hunt (1994) had stated, "Just as medical science should understand both sickness and health, marketing science should understand both functional and dysfunctional relationships".

Leventhal et al. (2014) stated that the customer engagement construct has two forms, positive and negative engagement, that is opposite to each other. Later Juric et al. (2015) made an argument that the types of engagement, positive and negative, are not just antonyms and stated that there is also a difference between "negative customer engagement" and "engagement with negative valence", which depends upon the intention of customers in addition to the factors causing them. A negatively engaged customer is the one who is “consciously, actively, and dedicatedly” involved in expressing the negativity during the entire process (Dolan et al., 2016). The fading of customer relationships and, finally, termination results when there is a positive to a negative shift in the engagement (Bowden et al., 2015). This risk is in the form of negatively engaged customers who would be motivated to warn or advise others and sometimes vent their anger and take revenge from the firms by sharing their negative experiences with the firm (Dolan et al., 2019). Thus, negative CE holds the danger of creating the “contagion effect” on the other customers. Also, negative customer engagement is viewed as a multi-dimensional (cognitive, affective & behavioural) construct (Naumann et al., 2017). Do et al. (2019) tried to theorise the negative engagement, giving the definition "a customer's unfavorable thoughts, feelings and behaviors towards a service brand or provider resulting from negative critical events that cause perceived threats to customers, negative customer engagement is thus understood as the negative valence of customer engagement that includes both disengagement and negative engagement". By this definition, it becomes clear that disengaged customers have a negative orientation in a passive way in situations where they separate themselves from the firm, whereas negatively engaged are the ones who actively and deliberately share negative experiences and feelings for a specific firm.

In today's time, as the interactional world mainly consists of online platforms and social media, the prevalence of negative CE becomes more evident, which results in damaging the reputation of the firm (Bowden et al., 2017; Dolan et al., 2019). This drastic growth of the social media world offers more opportunities to the customers to share their negative thoughts in the form of comment writing (Leventhal et al., 2014) or blogging (Juric et al., 2015). Also, one benefit of studying negative customer engagement is that when a customer raises their voice in the form of complaints or negative comments, they in a way provide the firm with a chance to correct the things, unlike disengaged customers who switch to others, leaving the former firm permanently (Do et al., 2019). Hence, the main purpose of this study lies in exploring negative customer engagement from the previous literature and helping future researchers identify the various significant avenues for further studies in this domain.

3. Research gap

For the first time, Hollebeek and Chen (2014) stated a need for a further conceptualisation of the emerging concept engagement from the positive side but particularly from the negative perspective. Later it was mentioned that though the harmful effects of negative engagement are known, there is still a need to develop more literature regarding its conceptualisation and operationalisation (Naumann et al., 2020); as a result, to discover its drivers, antecedents, and outcomes, and also there is a need to understand its implications particularly in the domain of services (Naumann et al., 2017). There have been many studies that showed the trends and development of customer engagement from a positive perspective (Ajiboye et al., 2019; Ng et al., 2020). As per Do et al. (2019), the literature on customer engagement has evolved to a great extent but in the context of positive engagement only, so there should be more studies on the construct negative engagement; which could further help in the empirical examination of negative engagement considering it to be the utmost priority for the researchers. Heinonen (2017) stated that there is an urgent need for managerial attention in negative expressions to

avoid negative emotions. Few studies have also stated that negative encounters from service delivery lead to value-destruction affecting the well-being of the customers, in a way resulting in negative engagement from the customer's side; however, this area of research still remains unexplored (Smith, 2013; Echeverri & Salomonson, 2019; Fliess & Volkers, 2019). Till date, almost no study has tried to cover the progress of negative customer engagement, and in that case, the present study becomes even more important to develop this area significantly.

As per the gaps mentioned above, this study aims at answering the following questions:

RQ1. From where and how the concept of negative customer engagement has evolved till now, and what all have been studied in this domain?

RQ2. What are the different theories, contexts, characteristics, and methodologies (TCCM) used to identify the gaps and future directions?

4. Methodology

Researchers to date have been employing qualitative or quantitative, or mix-method methods for reviewing the literature and thus making a point to understand what work has been done on customer engagement. Literature has now started to focus on negative customer engagement. Almost no effort has been made to explain the contribution of the work done on this topic until the present, which signifies a major gap. Figure 1 depicts the steps involved to achieve the research objective of this present study in the form of a seven-step methodology. This article attempts to organise the literature related to negative customer engagement, and for that, out of all the other methods to organise the literature, bibliometric analysis (Sun & Grimmes, 2016) and TCCM (Knight et al., 2004) have been selected. The simple reason for selecting bibliometric analysis is that it provides a "static, transparent and systematic picture of the research" (Singh & Dhir, 2019). It is a type of structural analysis that would help in studying the themes that are researched, identify the most prominent authors, countries, institutions, and the journals for some specific topic, deducing the various citation patterns over time and thus in a way it empowers one with the absorption of different thoughts on that topic given by the scholars over time (Sun & Grimes, 2016). Various software is available for performing the bibliometric analysis, but due to the effectiveness in performing statistical algorithms and having highly efficient tools for data visualisation, the "R Bibliometrix package (R studio)" is used for the analysis (Aria & Cuccurullo, 2017).

Scopus is selected as a search database for searching all the articles published on negative customer engagement from 2008 to January 2021. The search query applied was formed as: "(Abstract-Title-Keyword ("Negative Customer Engagement") OR Abstract-Title-Keyword ("Customer Engagement with Negative Valence") OR Abstract-Title-Keyword ("Customer Engagement") AND Abstract-Title-Keyword ("Negative"))". These keywords are chosen as this study is concerned and evolving only around negative customer engagement. The aim of this research is to find what concepts, trends, issues, types of customers, antecedents and consequences are related to the construct negative customer engagement. Thus the chosen set of keywords has the potential to highlight specific trends and concepts using effective tools like bibliometric and keyword co-occurrence. The search resulted in a total of 175 articles. Then in Scopus, the filter Category to "Business, Management and Accounting", type "Journal", and language "English" was applied, which resulted in 117 articles. Then finally, all the abstracts were read, and a total of 40 articles came after filtering the other irrelevant articles. Information regarding keywords, funding, abstract, citation, bibliographic, and additional remaining information was extracted and transferred in the file format called BibTex.

The second method chosen for this study is the TCCM framework, as it helps in emphasising the recent gaps mentioned in the previous papers and thus showing the forthcoming directions. In this framework, T denotes theory, C denotes Context, C denotes Characteristics, and M denotes Methodology (Knight et al., 2004).

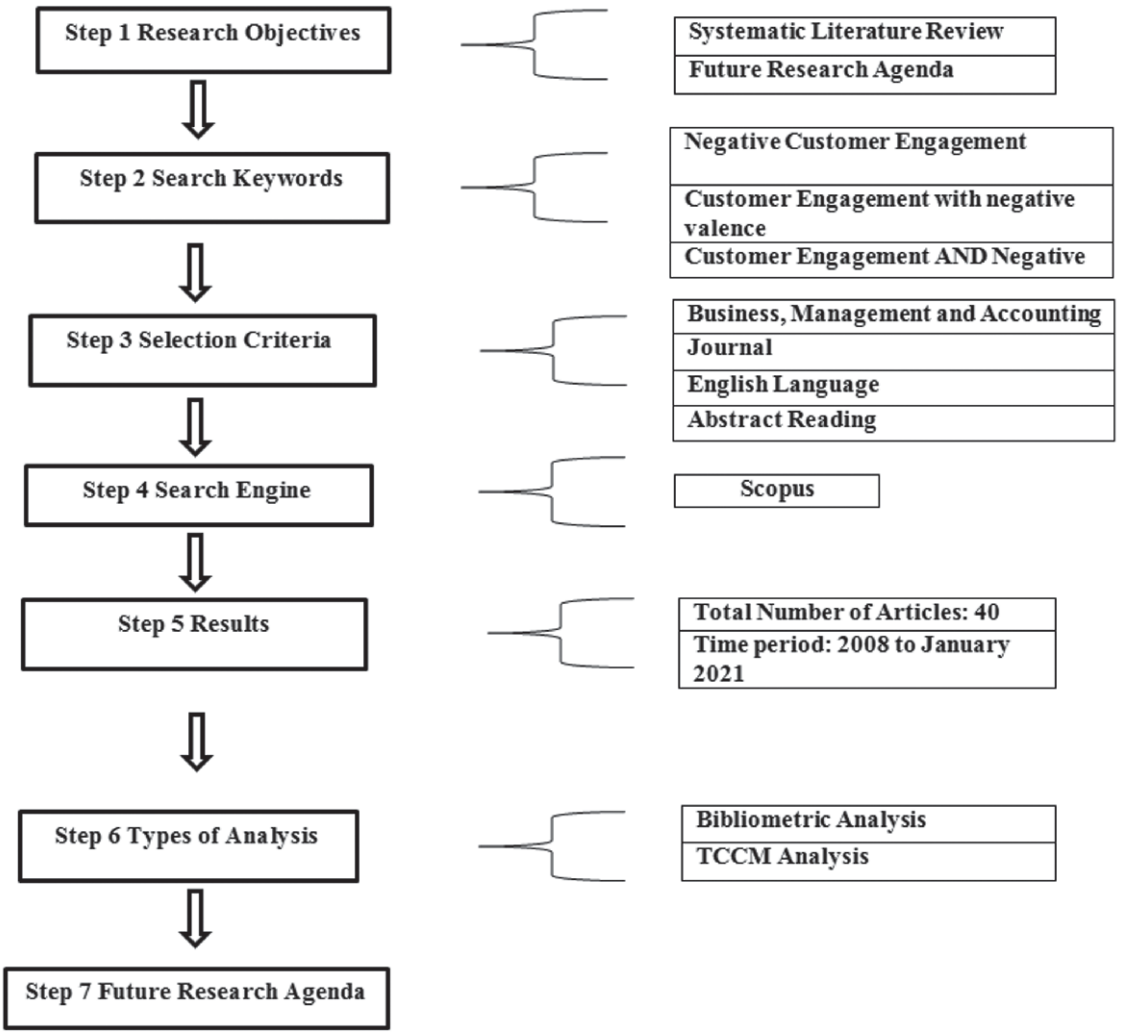

Figure 1: Seven Step Methodology

5. Analysis

5.1 Evolution of the research

Customer engagement is said to be an emerging topic from around 2008, and after a few years, the negative perspective, that is, negative customer engagement, was introduced. To get an idea regarding the publication of articles every year, Figure 2 is constructed.

5.1.1 Number of publications per year

Forty papers have been published between 2013 and 2021 that have tried to explain or somewhere mentioned negative customer engagement as per the Scopus database. The year 2020 is said to be the year with the highest number of publications with 14 articles, followed by nine articles in 2019 and 6 articles in 2017, which shows that the concept of negative customer engagement has started to gain the attention of most of the researchers.

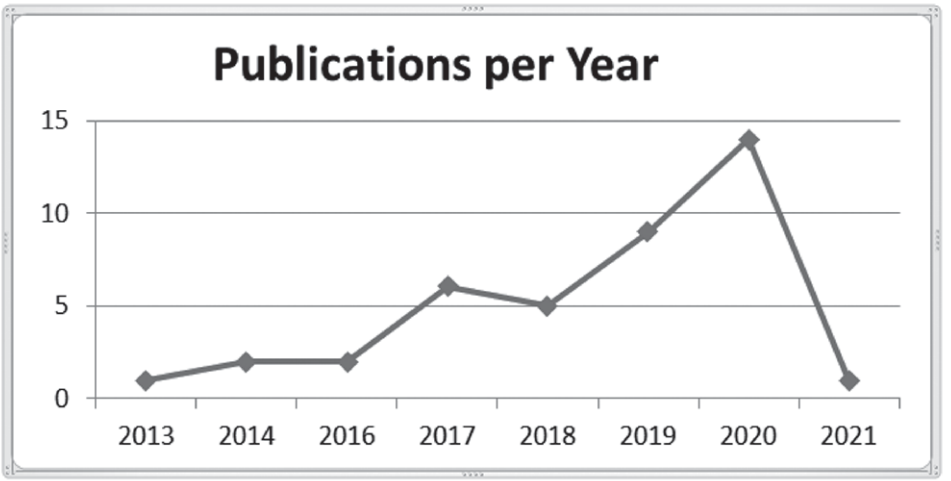

Figure 2: Publications per year

5.1.2 Most Productive Country and Institution

Australia and the United States have been shown to be productive countries till now in the domain of negative customer engagement with an input of 9 articles each, followed by China, Finland, Spain, and United Kingdom with four articles each, as shown in Table 1. Institutions like Macquarie University, University of Valencia, University of Glasgow, The University of Adelaide, University of Jyvaskyla, Western Macedonia University of Applied Sciences, Adam Smith Business School, and The Adelaide Business School are considered the top institutions to contribute in the area of negative customer engagement.

Table 1: Most Productive Country

Country	Number of Articles
Australia	9
United States	9
China	4
Finland	4
Spain	4
United Kingdom	4
France	3
Germany	2
New Zealand	2
South Korea	2
Austria	2
India	1
Norway	1
Singapore	1
Turkey	1
United Arab Emirates	1

Source: Original work of the authors

5.1.3 Most Relevant Source

The ten journals listed in Table 2 contribute a total of 35% of articles. Journal of Business Research, Journal of Service Theory and Practice, and Journal of Service Marketing contribute 7.5%, 5%, and 5% for publishing the articles related to negative customer engagement.

5.1.4 Most used Methodology

Table 3 highlights the major research methods used to study the concept of negative customer engagement. The most used methodology is netnography, having a total of 27.5%, followed by mixed methods. This shows that the online context of negative customer engagement is researched well due to the prevalence of online social media platforms like Facebook, Twitter, Instagram and others.

5.1.5 Most cited papers

For any study to proceed further, some seminal papers play a dominating role, which is also termed as a catalyst to develop the field further (Berry & Parasuraman, 1993). Similarly, for understanding negative customer engagement better, the top five papers as per the number of citations are listed in Table 4.

Table 2: Most Relevant Bibliographic Sources of Article

Sources	Articles
Journal of Business Research	3
Journal of Service Theory and Practice	2
Journal of Services Marketing	2
Annals of Tourism Research	1
Asia Pacific Journal of Marketing and Logistics	1
Business Strategy and the Environment	1
Corporate Communications	1
Current Issues in Tourism	1
Electronic Commerce Research and Applications	1
European Journal of Marketing	1
Other	26
Total	40

Source: Original work of the authors

Table 3: Types of Research Methods Used

Methods	Percentage Total
Netnography (Qualitative)	27.5
Mixed Methods	25
Survey (Quantitative)	15
Focus Groups (Qualitative)	10
Experiments	10
Interviews	5
Other	7.5

Source: Original work of the authors

Table 4: Top Five Articles by Citation Score

Title	Author	Journal	Citation Score
Customer Engagement Behaviors and Hotel Responses	Wei et al., 2013	International Journal of Hospitality Management	128
Engagement Valence Duality and Spillover Effects in Online Brand Communities	Bowden et al., 2017	Journal of Service Theory and Practice	63
Gift or threat? An examination of voice of the customer: The case of MyStarbucksIdea	Lee et al., 2014	Electronic Commerce Research and Applications	21
Positive and negative valence influencing consumer engagement	Heinonen, 2017	Journal of Service Theory and Practice	19
The impact of Facebook experience on consumers' behavioural Brand engagement	Triantafillido & Siomkos, 2018	Journal of Research in Interactive Marketing	17

Source: Original work of the author

5.1.6 Keyword Co-occurrence analyses

Keyword Co-occurrence analysis is used to see which research themes are emerging in a particular domain and thus identifying future areas to be explored as keywords are considered to provide important insights about the content of the articles (Kevork & Vrechopoulos, 2008). There are generally two sets of keywords in Scopus: one the primary keywords provided as per the authors called "author's keywords" and the other indexing ones that Scopus give called "keyword plus". VOS viewer software is selected to perform the keyword co-occurrence analysis as this software is used for constructing and efficiently visualising the bibliometric networks. The most commonly used words are customer engagement, social media, engagement objects, social media marketing, tourist destination, Facebook, as depicted in Figure 3. Keywords with bold letters indicate the main keyword, which has different keywords, signifying the major keywords used in the studies. The bold keywords include customer social media, Facebook, customer engagement, valence, brand communities, and social media.

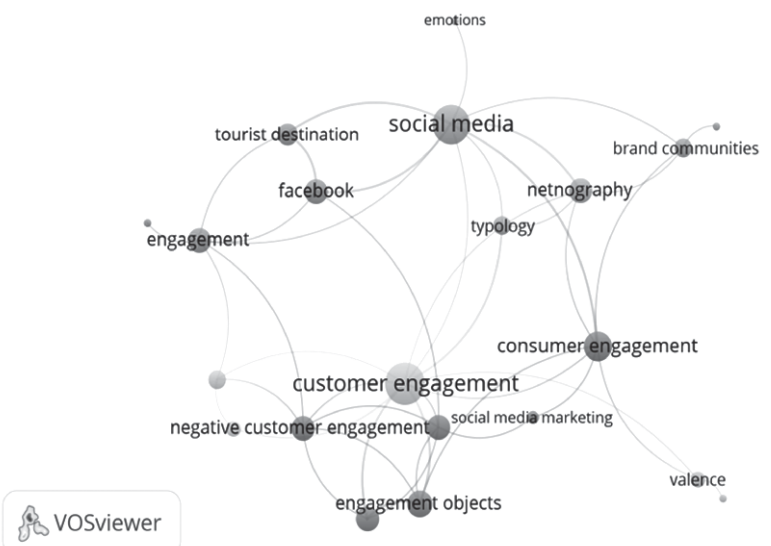

Figure 3: Keyword Co-occurrences

5.2 TCCM Analysis

To bridge the gap created by the previous literature and to guide future research directions, the TCCM framework is considered to be significant (Rajan & Dhir, 2020). The study aimed to identify the limitations of previous studies on negative customer engagement by carrying out the systematic literature review using "a theory development, context, characteristics and methodology (TCCM) framework" (Knight et al., 2004). To further simplify, TCCM is described in tabular format, as shown in Table 5.

5.2.1 Theory Development

As customer engagement from a negative perspective has started evolving, not many theories have been developed or used for understanding the concept of negative customer engagement. To further explain and develop this concept, many new theories can be developed. Any of the existing theories can explain this construct, and theories are usually used as a platform for performing analysis empirically for this construct in further studies. Developing theoretical models for negative customer engagement marks the major area for future research studies.

5.2.2 Context

Most of the studies done on negative customer engagement have covered services, hospitality, and tourism contexts. The significant gap identified from the context portion of TCCM is to do more studies on negative customer engagement taking different contexts or replicating the study done in one context into the other context. Also, for future studies, there is an opportunity to perform these studies in various countries and see diverse effects. Also, major of the studies done on negative customer engagement is in the online context due to the increase of digitalisation and also use of social media; hence it becomes important to understand how negative customer engagement would be in the offline context.

5.2.3 Characteristics

The constructs like consumer-to-consumer conflicts, engagement with the online brand community, and brand engagement with social media have been studied to explain negative customer engagement. Also, four kinds of customer engagement behaviours (co-developing, augmenting, influencing, and mobilising) have been understood from the previous literature from a negative perspective to get an idea of negative customer engagement. The antecedents studied for negative customer engagement are related to perceived justice, negative disconfirmation, consumption of emotions, experience with social media page, management responses to customer engagement behaviours, brand engagement behaviours, brand recovery effect, sponsorship disclosure, and advertising tone. The outcomes of negative customer engagement are mainly related to positive and negative review intention, perception of brands, repurchase intention, recommendation, feedback, brand attitude, disengagement, satisfaction, and reputation. Future studies should elaborate on these conceptualisations, and further add various new dimensions and explore new relationships that highlight the negative customer engagement.

5.2.4 Methodology

Since negative customer engagement is an emerging topic, the topic is in the exploration part. Most of the studies adopt qualitative analysis or experiments to explore and determine its factors and dimensions. Very few studies have used quantitative or mixed-method approaches for studying negative customer engagement. And also, in the case of qualitative studies, the most used approach is netnography and focus groups. Future studies should try to develop more studies using different qualitative methods like critical incident techniques and personal interviews. Later empirical studies, i.e. quantitative studies, should be undertaken first to develop the scale and then test it across various contexts.

6. Discussions

The present study has attempted to perform the bibliometric analysis and literature review using TCCM of 40 articles in negative customer engagement from the Scopus database. Studies now have started exploring this construct and performed qualitative analysis to identify its factors and dimensions. But still, not many studies out of these 40 articles concentrate solely on only negative customer engagement, but still, they have been taken into account as they tried to explain some aspect of it.

Initial bibliometric analysis is employed to perform the analysis for which R Studios' Bibliometrix package has been used. The analysis depicts that the top six countries in the publication of negative customer engagement are Australia, the United States, China, Finland, Spain, and the United Kingdom. The key journals which published papers related to negative customer engagement are Journal of Business Research, Journal of Service Theory and Practice, Journal of Services Marketing, and Annals of Tourism Research. The most cited authors for their work in negative customer

engagement emerging from the analysis were Wei et al. (2013), Bowden et al. (2017), Lee et al. (2014), Heinonen (2018) and Triantafillido and Siomkos (2018). To answer the question related to important keywords used in the study of negative customer engagement, keyword co-occurrence analysis was done using VOS viewer software. Since the construct is new, the keywords with more citations are believed to influence the development of negative customer engagement, and the most impactful keywords found in the analysis were customer engagement, social media, Facebook, social media marketing, tourist destinations, brand communities, and valence.

Next, the paper attempted to carry out the TCCM analysis to know the literature regarding the theories used, context, characteristics, and methodology adopted in the studies of negative customer engagement. When reviewing the literature regarding the types of theories used, it was found that the use of theories in studying this construct is negligible. Expectancy disconfirmation theory was one theory that was used more than once, but still, as most studies are in the exploration stage, they have not used theories or developed any new theory for studying the construct of negative customer engagement. The context in which this construct has been used is mostly in the online context and especially in the service domain. Due to the prevalence of the increasing popularity of social media pages, this construct is found to be most relevant in the online social media context, and hence most studies are done in this context. The characteristics of the previous studies mentioned in the literature included the constructs like perceived justice, negative disconfirmation, consumption of emotions, experience with social media page and others as antecedents, whereas constructs like positive and negative review intention, perception of brands, repurchase intention, feedback, reputation and others as consequences of negative customer engagement. When coming to the methodology portion, qualitative analysis and experiments dominate the whole part of the methodology portion. Netnography is the most used approach adopted in studying negative customer engagement. Very few studies have been using quantitative or empirical studies to understand negative customer engagement.

Using bibliometric analysis, some topics seem to be more efficient because they received more citations compared to others. It is mainly assumed that articles with more citations are impactful and have more value (Singh & Dhir, 2019). However, there may be cases when some articles would have made significant contributions, still received fewer citations, or are less recognised. And as this construct is new, papers done in recent years would not have been cited much, but they would receive citations and recognition in the coming years. For that fact, it becomes a need to carry out the bibliometric analysis once in 10 years to identify the trend and development in that area. TCCM analysis helps future researchers to easily grasp the literature as in a paper the main things to be looked upon are which theory is used, in which context study is done, what are the characteristics of the study and what kind of methodology has been used, so in a way by reviewing Table 5, a researcher can get a basic idea about the articles studied for negative customer engagement. So various gaps and future avenues can be identified and studied further for developing the concept of negative customer engagement.

7. Future Research Directions

As per the complete analysis, the main questions that are still unanswered or unexplored includes: what are the dimensions of negative customer engagement, what is the conceptual framework for negative customer engagement, what are the antecedents (leads to) and consequences (outcomes) of negative customer engagement, how is it in different in online and offline context and which has more adverse effect from the managerial point of view and how to mitigate it, what is the scale for measuring the negative customer engagement and testing negative customer engagement models across various contexts. Also, research towards developing a theory for understanding negative customer engagement can be a very significant contribution. Testing the study across various contexts would lead to the generalizability of the studies. Once the exploratory studies have been done to identify the factors that lead to negative customer engagement and its outcomes, more and more empirical studies should be carried out to confirm the exploratory results. Relationships among various constructs should also be studied using empirical studies. In addition to the above research directions, more studies are required to do bibliometric analysis using different keywords like jay-customers, angry customers and service recovery for in-depth exploration of negative customer engagement.

Table 5: TCCM Analysis

Year	*Article Name*	*Theory or (Concept*)*	*Context*	*Characteristics*	*Methodology*
2021	A netnographical approach to typologizing customer engagement and corporate misconduct	Grounded theory	Corporate Misconduct	Classified customer engagement behaviors as organisational (co-developing and augmenting behaviors) and peer (influencing and mobilising behaviors) engagement and operationalising into positive, neutral, and negative dimensions.	Qualitative (Netnography)
2020	Friend or foe? Customer engagement's value-based effects on fellow customers and the firm	Stakeholder theory	Multi-customer contexts	Deduced engagement as positive and negative, which yields various effects of values that are perceived across actors.	Typology (Typological Framework)
2020	Consumer Responses to Conflict-Management Strategies on Non-Profit Social Media Fan Pages	Consumer to consumer conflicts	Non-profit context	"Consumer-to-consumer (C2C) conflicts" are defined as informal social interactions among the consumers, which yield the negative effect resulting in engagement of consumers in fan page of social media.	Mixed Method: 1:Qualitative (Netnography) 2:Experiment
2020	Online Reviews of Restaurants: Expectation-Confirmation Theory	Expectation-Confirmation Theory (ECT)	Restaurant	ECT is employed for testing the connection among the information acquired, which is available offline and online in the context of selecting the restaurant. **Antecedents: "**Review quality, review timeliness, visual image quality, review rating" **Mediators: "**Review adoption & Confirmation" **Consequences: "**Positive review intention and Negative review intention"	Quantitative (Survey)
2020	The socio-cultural dimensions of community-based sustainability: Implications for transformational change	Alterity concept	Community-based sustainability projects	Conceptualisation of people's involvement or non-involvement from the viewpoint of one who involves or doesn't involve in the community of sustainability and noted the inferences for the changes in transformation.	Qualitative (Focus Group)
2020	"You are too friendly!" The negative effects of social media marketing on value perceptions of luxury fashion brands	Construal level theory of psychological distance (CLT)	Luxury brands on social media	Examining the impact of engagement related to brand and consumers for the perceptions of value on the brands related to fashion in the luxury sector in the context of social media marketing. **Antecedents:** "Luxury Fashion Brands Vs Mainstream Fashion Brands & Brand Consumer Engagement (High Vs Low)" **Mediator:** "Psychological Distance" **Consequence:** "Perceptions of Luxury Brands (social, uniqueness, quality perception)."	Mixed Method: Quantitative (Survey) and Experimentation
2020	Managing the product-harm crisis in the digital era: The role of consumer online brand community engagement	Customer Engagement theory	Online brand community engagement (OBCE)	Investigating the impact of OBCE for the responses of consumers relating to the super-recovery approach of brands, this includes intention for repurchase and forgiveness. **Antecedents:** "Brand super recovery effort & OBCE" **Mediator:** "Consumer forgiveness" **Consequence:** "Repurchase intention"	Quantitative (Survey)
2020	Predictors of tourist engagement: Travel motives and tourism destination profiles	Concept of travel motive and regional tourism destination profiles	Tourist Destinations	Classifying push and pull motives as travel motives and the destinations of local tourism according to the behaviour of demand by the tourists.	Qualitative (Netnography)
2020	Expanding customer engagement: the role of negative engagement, dual valences and contexts	Customer Engagement concept	Service Context (local government service & social media)	Operationalised and measured the combined impact of negative CE and positive CE and exploration of these two valences are done through the dimensions of cognitive, behavioural, and affective, by taking involvement as the antecedent and word-of-mouth as a consequence.	Quantitative (Survey)
2020	Negative customer engagement behaviour: the interplay of intensity and valence in online networks	Negativity bias's concept	Online social networks	Investigating the effects of NVIB as one of the six forms of customer engagement behaviour for identifying the behavioural and attitudinal intents on different actors which concerns the service providers by taking CEB and e-WOM into consideration.	Experimentation (2 Experiments)
2020	The effect of greenwashing on online consumer engagement: A comparative study in France, Germany, Turkey, and the United Kingdom	Concept of greenwashing and green products	Online consumer engagement (Facebook)	Studying the impact of the crisis that happened in 2015 for the emission of Volkswagen, which was termed as one of the biggest greenwashing events in recent years, and for that, the brand pages of social media Facebook was investigated to study the online CE in United Kingdom, Germany, France, and Turkey.	Qualitative (Netnography)

2020	Understanding the influence of culture on customer engagement and recommendation intentions	Social exchange theory and Social Impact theory	Hospitality Sector	Conceptualised customer engagement as two dimensional having positive & negative sentiment and analyses how culture influences the link between a psychological state of customer engagement and behavioral recommendation (eWOM) intentions.	Analysing reviews online (Qualitative)
2020	Brand and consumer engagement behaviours on Facebook brand pages: Let's have a (positive) conversation	Concept of echoverse	Brand	Aims at Studying the dynamics of social media and thus identifying the impact of the engagement in digital context relating to consumer and brands, having the focus on the interaction among these two and also between the consumers. **Antecedents**: "Brand Engagement Behaviors: Presence & Responsiveness Behavior" **Consequences:** "Consumer Engagement Behaviors: Endorsement, Recommendation, Feedback, Conversation and Consensus Behavior"	Netnography & Mathematical Modeling
2020	The depth of brand engagement funnel: dimensionalising interaction in social media brand communities	Means end theory	User-Generated Content on Social Media	Mentioned the literature related to consumer brand engagement (CBE) for the brand communities on the social media (SMBCs) like Subway, Burger King, and KFC, offering the model which involves the funnel that is related to the depth of brand engagement(DOBEF), showing the comparative depth of the fundamental components present in the brands for the process of decision-making for consumer, with most tangible (like product attributes) as the beginner and the ideational portion of a knowledge structure related to the consumer (like a system of cognitions and beliefs) towards the end.	Mixed Method: Quantifying the Qualitative (coded from Facebook) data
2020	The red packet interaction and brand attitude in the brand communities on WeChat	Social principle of giving and receiving: Exchange and Communal	WeChat Brand groups	Exploring red packets and monetary incentive, and also identifying the impact of their interactions on the attitude of the consumer's brand in the brand group called WeChat (WCBGs). **Antecedents:** "Exchange red packet interaction (ERPI) & Communal Red packet interaction (CRPI)" **Mediator: "**Normative Community Pressure" **Moderator:** "Time frame" **Consequence:** "Brand Attitude"	Experimentation (3 Experiments)
2019	Determinants of negative customer engagement behaviours	Expectancy Disconfirmation and Justice Theory	Service context	Proposing the determinants that are unique for CE that are negatively valenced, that involve behaviours relating to disengagement and negatively engaged, thus exploring what conditions lead customers to display disengaged or negatively engaged behaviours. **Antecedents:** "Customer perceived justice and negative disconfirmation" **Mediator:** "Customer outrage" **Moderator:** "Self-esteem, self-efficacy, altruism & vengeance" **Consequence:** "Disengaged behavior & Negatively engaged behaviours"	Conceptual
2019	Destination engagement on Facebook: Time and seasonality	Concept of the time frame and seasonality	Tourism industry	Studying the impact of seasonality (low, medium, and high) and timely frames (posting day and posting time), which are considered as predictors on engagement (negative/positive), which are treated as response variables on Facebook for the "Destination Management Organization (DMO)".	Qualitative (Netnography)
2019	Secrets to designing an effective message on Facebook: an application to a touristic destination based on big data analysis	Customer Engagement concept	Tourist destination	Identifying the variables that are considered important to design the message which would be implemented to develop engagement (negative or positive) having the dimensions like commitment, virality, and popularity for the particular destinations in tourism context on the social media (to be specific Facebook).	Qualitative (Netnography)
2019	Post popularity and reactions in retail brand pages on Facebook	Popularity concept	Retail	To investigate the reasons that lead to the level of acceptance and engagement relating to the posts on Facebook mentioned by the pages of Greek brands, especially the retail pages. The type of factors influencing post engagement is: "type and content of posts in terms of vividness and interactivity, level of activity in the page/post, the amount of information included in a post and finally the time of posting".	Qualitative (Netnography)

2019	Investigating Consumer Engagement with Influencer- vs. Brand-Promoted Ads: The Roles of Source and Disclosure	Persuasion Knowledge Model (PKM)	Advertising	Comparative analysis for the efficiency of two sets that are identical and comparative containing the marketing content, which is branded posts promoted by the influencer and reposting of brands by the influencers' branded posts. **Antecedents:** "Source of ads & Sponsorship disclosure" **Mediator:** "Follower's engagement with ads" **Consequence:** "Follower's engagement metrics (liking, commenting), follower's sentiment in the comments & follower's topics in the comments"	Qualitative (Netnography Instagram)
2019	Different kinds of research shoppers, different cognitive-affective consequences	Concept of webrooming and showrooming	Retail	To determine the effect that moderates the strength for the relationship among the value that is perceived, satisfaction and emotions, which are considered as the factors that determine the CE for retailers in the context of "research shopping vs one-stop shopping and webrooming vs showrooming". **Antecedents:** "Consumption Emotions (positive & negative)" **Mediator:** "Perceived Value" **Moderators:** "Webrooming and showrooming" **Consequence:** "Satisfaction"	Quantitative (Survey)
2019	An analysis of negative reviews in top art museums' Facebook sites	Grounded theory	Museum art	Identification of the comments in the negative connotation made on the social media page (Facebook) for the review sites in the context of the museum by the public and to determine the course of action to monitor these negative comments.	Qualitative (Netnography Facebook) and online survey of museum managers
2019	Measuring and managing the externality of managerial responses to online customer reviews	Difference-in-difference-in-differences (DDD) framework	Travel Agencies	Assessing the value for the customer reviews in future by the Managerial Responses and to investigate significant ways by which these online reviews made by Managerial responses to customers would affect the customers who received the reviews as well as the ones who just observed the reviews.	Qualitative (Netnography)
2019	Customer engagement in the hotel industry: Perceptions of hotel staff and guests	Concept of service experience and engagement	Hotel	Exploring CE in the context of a hotel, by means of how the management would expect their staff to engage the customers, which involve the role of frontline employees engaging the customers leading to how customers perceive and take participation in the engagement and finally evaluating the positive and negative outcomes of CE.	Qualitative (Semi - structured interviews & 15 reflective diaries
2018	Don't you dare push me: How persuasive social media tactics shape customer engagement	Self-determination theory	Social Media	Deriving the model for the tone of advertising and action call for CE by adopting the understanding from the customer level. **Antecedents:** "Advertising tone, Calls to Action and combination of two" **Moderator:** "Communal Brand Connection" **Consequence:** "Customer Engagement"	Quantitative (Online survey) and Experimentation
2018	Emotions as a predictor for consumer engagement in YouTube advertis ement	Concept of emotions and consumer behaviour	Emotional Appeals	Inducing the CE by means of social networking sites by focusing on the emotional appeals made by the advertisements, where the strategies developed by marketers focus on both the emotional and rational appeal, which can be positive and negative.	Analysing Video advertisements
2018	The impact of Facebook experience on consumers' behavioural Brand engagement	Experiential economy concept	Social Media Experience	To measure the experience on social media (Facebook) and determine the comparative effect of various dimensions of the experience made on Facebook, towards the different aspects of CE among the pages made on Facebook and identify the most pertinent ones. **Antecedent:** "Facebook Experience" **Moderator:** "Facebook Usage Frequency" **Consequence:** "Engagement Activities with Facebook Brand Pages"	Quantitative (Surveys)
2018	The two sides of empowering consumers to co-design innovations	Psychological ownership theory	Services	Using the co-designed sense of the power of the consumers, which influences the engagement perceived by them within a service context to examine the role of co-designing for service innovation in addition to driving the intentions responsible for both types of engagements (positive and negative).	Experimentation
2018	Positive and negative valence influencing consumer engagement	Customer Dominant Logic	Online Interest Community	To characterise the factors influencing the engagement, this can be positive and negative.	Quantitative (Survey)
2017	A Multi-Valenced Perspective on Consumer Engagement Within a Social Service	Concept of negative engagement and disengagement	Social Service Sector	Using the dimensions of engagement (cognitive, affective, and behavioural), exploring the engagement valences, which can be positive, negative, or disengaged, and confirming that particular valence drives among the three dimensions.	Qualitative (Focus Groups)

2017	Customer Psychological Empowerment as a Critical Source of Customer Engagement	Power Sources And Power Capacities Approach	Tourism Industry	Using the customer ability impacting the e-reputation to develop the conceptual model on the basis of psychological empowerment. **Antecedents:** "Self Target and Customer Personal Capacity (Self-confidence & Ego-reinforcement), Other Target and Customer Relational Capacity (Helping the company, Vengeance) & Other Target and Customer Collective Capacity (Collective consciousness, altruism towards other customers, other customer honesty & company honesty)" **Mediator:** "Customer Engagement Behavior" **Consequence:** "E-reputation"	Mixed Method: Qualitative (Netnography) & Quantitative (Survey)
2017	Exploring customer engagement valences in the social services	Negative Customer Engagement and customer disengagement concepts	Social Services	Understanding the significance and dimensions of negative engagement and disengagement in line with the positive engagement by discovering how these valences are applicable for dual objects like important organisations and communities in the context of services.	Qualitative (Focus Groups)
2017	Embarrassed customers: the dark side of receiving help from others	Concept of Customer Engagement Behavior	Service Encounters	To focus on the influences which are negative in particular that boost the customer engagement behaviours between the customers and also towards customer-to-customer interactions (CCI) and exploring the discrepancy effects towards the help sources (customer against employees) for understanding the customer satisfaction.	Qualitative (Critical Incident Technique) & Experimentation
2017	Engagement valence duality and spillover effects in online brand communities	Social practice theory	Online Brand Community (OBC)	To explore the valences of customer engagement, either positive or negative, with various objects of engagement, the interaction among the two, and lastly, the effect of customer engagement concerning OBC with their brand engagement.	Qualitative (Interviews)
2017	The effects of consumer engagement behaviour on the growth of social media brand community: Evidence from an SME	Customer Engagement concept	Social Media Brand Community	To examine the bond among particular behaviours of customer engagement with the rate of evolution of the brand community of social media over a time period.	Qualitative (Netnography)
2016	Siding with the underdog: is your customer voting effort a sweet deal for your competitors?	Concept of voting mechanisms	Voting related campaigns	Studying the dual risk of voting by the customers, primary understanding the losing hostile effects and thereafter identifying the probability of transferring the engaged customers to smaller competitors, in a way examining the consequences of customer engagement which is negative.	Experimentation & Quantitative (Survey)
2016	(Un)willing to engage? First look at the engagement types of millennials	Customer Engagement concept	Millennials' use of social media	Preparing a unique framework using tone, motives, and degree of CE among young consumers, and initial understanding of the motives and willingness for engaging with the organisations in online platforms.	Qualitative (Focus Groups)
2014	Reviewer online engagement: The role of rank, well-being, and market helping behaviour	Stimulus-Organism-Response (SOR)	Reviewer Community Forum	Understanding the psychological and subjective well-being and identifying the ways in which they would be influencing the experience of the reviewer and the corresponding engagement.	Qualitative (Critical Incident Technique)
2014	Gift or threat? An examination of voice of the customer: The case of MyStarbucksIdea.com	Expectancy Disconfirmatio n Theory	Online Brand Community (MSI)	To prepare the model using the customer expectation types, engagement of opinion leader and voice of customers in negative valence in regards to the innovation and interaction as outcomes. **Antecedents:** "Voice of Customers (VOC) & Engagement of Opinion Leaders" **Mediator:** "Negative valence of VOC" **Consequence:** "Interaction & Innovation."	Qualitative (Netnography)
2013	Customer engagement behaviours and hotel responses	Concept of customer brand engagement	Hospitality Sector	Involved three kinds of actors at the online platforms, which include the firms in which customer engagement behaviours are focused, the customers which display these behaviours and finally, the reactions of firm managers towards those behaviours. **Antecedents:** "Management Responses to CEBs (Generic & Specific)" **Moderators: "**Valences of CEBs (positive & negative)" **Consequence:** "Customer's Perception of Management Response to CEBs (trust & communication quality)"	Experimentation

**The papers where no theory was mentioned, concepts have been taken for the understanding.*
Original work of the authors

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