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Quarterly Publication of the Indian Commerce Association

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In captions for tables, figures, and columns heading in tables, the first letter of the first world should be capitalised and all other words should be in lower case (except proper nouns). For example Table 5. Price ratios between edible groundnut kernel and other edibe nut kernels. **Footnotes** in the text should be numbered consecutively in plain Arabic superscripts. All the footnotes, if any should be typed under the heading 'Footnotes : at the end of the paper immediately after conclusion'.

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Comparison of the Financial Performance of Cooperative Dairies vis a vis Global FMCG Companies in India through a Proposed Model

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Viral Bhatt and Sandip K. Bhatt

Abstract : *The study aims to assess the financial performance of different categories of entities operating in dairying and edible FMCG products. For this, we propose a model that can gauge an entity's financial performance involved in dairying and allied activities. The proposed model clarifies the deficiencies of the widely used Altman's Z score model for financial distress prediction. The proposed model has also been validated using ANOVA and Post hoc analysis. We have considered a sample of 9 entities, three from each category: Indian cooperative dairies, Indian private dairies and India incorporated entities of global FMCG companies.The proposed model helps distinguish the financial performance of cooperative and private dairies from global FMCG companies incorporated in India. It is observed that the financial performance of global FMCG companies (incorporated in India) is better than private or cooperative dairies.*

Keywords : Financial Performance Model, Cooperatives, Cash Flow Ratios, Ratio Analysis, Altman Z Score and ANOVA Post Hoc analysis.

I. Introduction

India has been the biggest milk producer globally since 1998, at 17% global share (FnB news, 2020), with 165 million tons of milk produced in 2016-17.(Press Trust of India, 2018) The dairy sector employs 8.4 million people in India, out of which

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nearly 70% are women.(Parida & Yadav, 2020) Production has increased by volume post-Operation Flood, which transformed India from a milk deficit country to a milk surplus country. Dairy sector is diversifying its revenue base towards other value-added products.

Since the IDDP scheme's inception, 114 projects have been approved with a total outlay of ~INR 700 Cr, benefitted ~24 lac farmers in 32095 villages. (Department of Animal Husbandry and Dairying, 2019) The Union Budget of 2020 further underscored the importance of the dairy sector, which saw an 18% increase to INR 3289 Cr. (Ganguly, 2020)

While 48% of the whole milk is consumed by the milk pourers or sold to others in rural areas, only the balance, 52%, is the marketable surplus. Out of the total marketable surplus, just 40% is sold by the organized sector. (Press Trust of India, 2018) Despite a relatively small, organized sector, India exported 123877 MT dairy products in 2018-19, worth INR 2700 Cr. (Pandey, 2019)

Dairy's total greenhouse gas emissions over 2005-15 have decreased by 11%, while global dairy production has increased by 30% due to higher yields. (Dairy Industries International, 2019)

Research on a few global dairy companies showed a decrease in Return on Invested Capital (ROIC) to 6.5% in 2017 (from 9.5% in 2008). (Adams, Maluf, Ramirez, & Paula, 2019) Dairying is a transparent industry, and word of mouth is the best advertising form. This justifies why AMUL, with just ~1% of sales as advertising expenditure (vis-a-vis 6-8% for other FMCG's), commands such high goodwill in the market.

II. Literature Review

A study undertaken by Soboh, Lansink and Dijk highlighted the impact of the different shareholding patterns on financial statements through ratio analysis using logistical regression. They analyzed the financial performance of cooperatives vis-a-vis investor-owned funds in the European dairy industry. They concluded that cooperatives are more heterogeneous, less profitable and operate less efficiently. (Soboh, Lansink, & Dijk, 2011). Ganc studied the profitability, management efficiency and indebtedness of dairy cooperatives depending on their overall financial liquidity. Eighty-eight dairy cooperatives were grouped into quartiles, and a test was made for the significance of differences between these groups. It found a positive correlation between

liquidity and profitability of own funds, an inverse correlation between liquidity and total debt and shorter payment deadlines for liquid cooperatives (Ganc, 2018). Kunte and Patankar analyzed the financial performance of dairy units in Maharashtra using profitability, return on investment and turnover ratios. The study concluded an alarming liquidity position of some dairies illustrated by negative working capital and higher EBIT ratios for private dairies vis-a-vis the Cooperative (Kunte & Patankar, 2017). Mitrovic, Knezevic and Velickovic evaluated financial analysis of dairy enterprises focusing on ratio analysis and concluded that it is inappropriate to classify one dairy as more profitable than the other. One must consider the causes and factors that lead to this difference in profitability. (Mitrovic, Knezevic, & Velickovic, 2015). Gentzoglanis studied financial ratios for six dairy cooperatives and IOFs in Canada between 1986 and 1991. He argues that no major difference exists between the two categories of entities concerning profitability, productivity and use of new technologies. Cooperative principles do not inhibit the cooperatives from achieving superior financial performance (Gentzoglanis, 1997). In another study conducted by Chen, Babb and Schrader on the U.S. Food Industry, they concluded that cooperatives had lower profitability, higher leverage and higher growth rates than IOF's (Chen, Babb, & Schrader, 1985). Lerman and Parliament studied whether the differences in objectives between the cooperatives and IOFs outweighs the commonality in their functioning in the United States. Its audited financial statements compared the median financial ratios of 9 dairy and vegetable cooperatives between 1976 and 1987. The paper concluded that the difference in performance between two categories of cooperatives operating in different industries vis-a-vis IOF's might be due to industry-related factors and not the difference in objectives or organizational structure. (Lerman & Parliament, 1990). A similar study conducted by Parliament, Lerman and Fulton found that cooperatives performed better than IOF's in liquidity, asset turnover and coverage. At the same time, the Return on equity was almost similar. Further, they also argued that various nonfinancial aspects of cooperative behavior must also be considered to fully capture the benefits of cooperatives. (Parliament, Lerman, & Fulton, 1990) Yagba, Okeji and Ayuba examined the financial health of manufacturing companies in Nigeria using the multiple discriminate analysis. They found that Altman's multiple discriminant analysis models are useful in detecting early signs of failure. There was a strong positive correlation between Altman's Z score and the financial ratios of the entities studied. (Yagba, Okeji, & Ayuba, 2015)

Research gap : We have observed that many researchers have studied and compared the cooperatives' financial ratios vis-a-vis investor-owned entities in the dairy sector. The differences in the ratios portend to the difference in objectives and ways of operational functioning. However, no specific model used the financial data and indicated such entities' financial strengths/ weaknesses.

III. Research Methodology

Statement of the Research Problem : Financial performance of entities cannot be evaluated in silos by looking at every ratio in isolation. Thus, it becomes difficult for readers of financial statements to accurately assess an entity's financial health.

Sources of Data : Secondary data is collected through the annual financial statements and from Prowess IQ CMIE. From 2009-10 to 2018-19 is taken for review.

Research Objective : To analyze the differences in the financial performance of private and cooperative dairies vis-a-vis Global FMCG companies incorporated in India through a model that captures every essential financial performance aspect.

Sample Size : 3 Indian cooperative dairies, (Sabarkantha District Co-operative Milk Producers' Union Limited, Kaira District Co-operative Milk producers union Ltd. and Rajkot District Co-operative Milk Producers'Union Ltd.) 3 Indian private dairies(Umang Dairies Ltd., Hatsun Agro Products Ltd. And Kwality Milk Foods Ltd. and 3 India incorporated global FMCG companies Mondelez India Foods Pvt. Ltd, Nestle India Ltd. And Britannia Industries Ltd.).

Method of Analysis : A comparative study of the ratios of the three categories of entities is done. Average ratios for each category are calculated along with the trends in these averages. This comparison succinctly brings out the difference in the operational functioning of the three categories of entities. Therefore, while framing a model that can gauge an entity's financial performance, we have used nine entities (3 from each category).

Research Design : The research design is explanatory and analytical. The study explores financial performance thoroughly to develop insight into the organization's financial health through Ratio analysis, cash flow analysis and arithmetic mean, ANOVA and Post hoc analysis.

IV. Ratios

1. Liquidity Ratios

1) The current ratio gauges an entity's ability to satisfy its short-term obligations. current ratio = Current Assets/Current Liabilities.

2) Cash flow liquidity ratio measures the ability of an entity to repay debt. Cash flow liquidity ratio=Operating Cash Flows/Current liabilities.

3) Quick ratio measures short-term liquidity position. Quick ratio = Quick Assets/ Current liabilities.

2. Solvency Ratios

1) The debt-equity ratio is the ratio of the entity's use of long-term debt vis-a-vis equity to finance its operations Debt Equity Ratio = Total Debt / Equity.

2) Cash flow adequacy ratio measures an entity's ability to cover its capital expenditure, debt repayment and dividend outgo during a specified period. Cash Flow from Operations/(Capex+Debt repayments + Dividends paid).

3. Profitability Ratios

1) Net Profit Margin = Profit After Tax / Total Income measures ratio of profit generated to total revenues.

2) Return on Capital employed= earnings after-tax/capital employed measures the efficiency with which a company utilizes its capital.

3) Cash flow margin = Cash flow from operating activities/Net Salesindicates the relationship between cash flows from operating activity and sales.

4) Cash return on assets = Cash flow from operating activity / Total assetsmeasures an enterprise's ability to generate cash from its assets.

4. Efficiency Ratios

1) Finished Goods Turnover Ratio = COGS/Average Inventory signals the number of times an entity can sell and replace its finished goods inventory during a defined period.

2) Operating cost as a percentage of total income= operating Cost/ Total Income measures operating expenses to total income, measuring an entity's operational efficiency.

3) Total assets turnover ratio = Total sales/ Average Assets. measures the sales revenues generated using assets.

Proposed model (prepared by authors):

Figure-1 : Proposed Financial Model
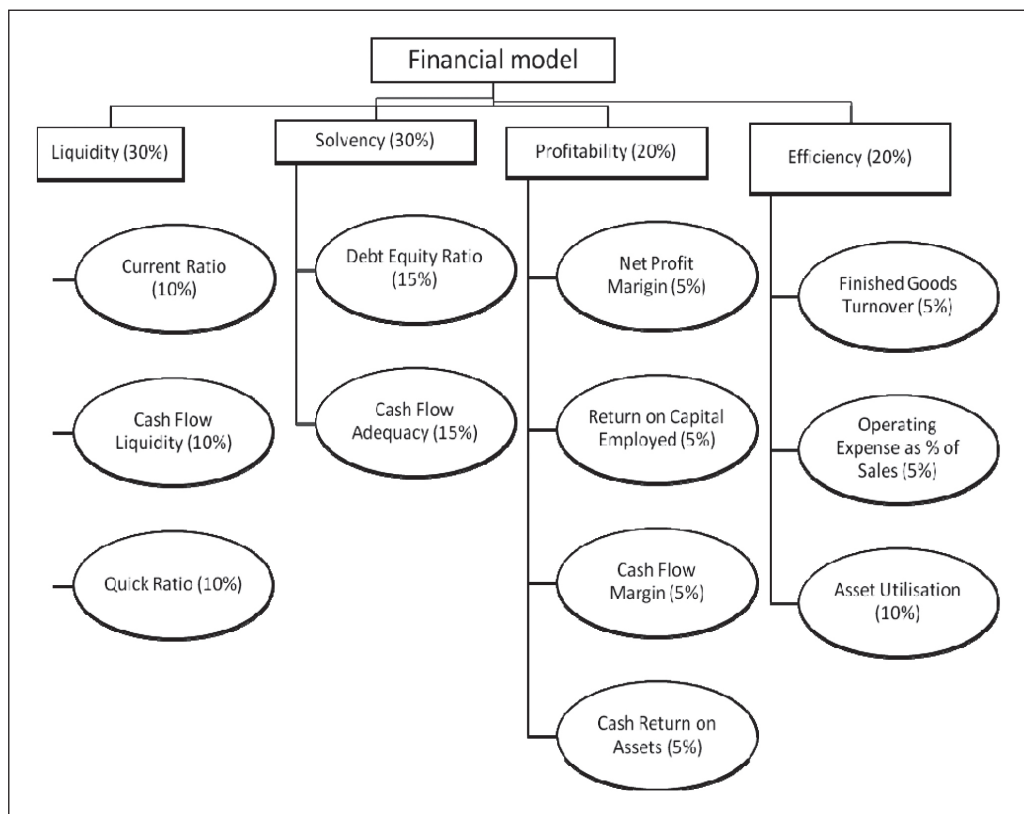
Model Run :

a) Model ratios:

Financial Ratio	Category of ratios	Ratio	Average			Cooperative dairies			Private dairies			Global FMCG entities		
			Coop	Private	Global	Sabar	Amul	Rajkot	Umang Dairy	Hatsun Agro	Kwality	Mondelez	Nestle	Britannia
Financial Ratio	Liquidity	Current Ratio	1.17	0.89	1.32	1.71	0.82	0.97	1.07	0.50	1.10	0.99	1.62	1.35
CF Ratio	Liquidity	Cash Flow Liquidity	0.14	0.38	0.63	0.17	0.10	0.14	0.21	0.36	0.56	0.33	1.02	0.54
Financial Ratio	Liquidity	Quick Ratio	0.82	0.33	0.72	1.24	0.42	0.79	0.30	0.10	0.58	0.59	1.04	0.53
Financial Ratio	Solvency	Debt Equity Ratio	3.24	1.22	0.24	3.20	4.05	2.47	0.37	3.13	0.15	0.18	0.19	0.34
CF Ratio	Solvency	Cash Flow Adequacy	0.66	0.47	1.37	0.83	0.49	0.66	0.67	0.24	0.51	1.32	1.45	1.34
Financial Ratio	Profitablity	Net Profit Margin	0.50	3.57	8.09	0.42	0.33	0.74	4.41	1.94	4.35	5.94	11.55	6.77
Financial Ratio	Profitablity	Return on Capital Employed	2.12	19.34	35.51	3.64	2.58	0.14	37.30	7.23	13.48	19.77	54.54	32.22
CF Ratio	Profitablity	Cash Flow Margin %	2.58	5.00	11.94	3.08	2.08	2.58	4.36	5.99	4.66	11.20	16.78	7.84
CF Ratio	Profitablity	Cash Return on Assets %	9.85	12.32	21.22	12.21	7.48	9.85	9.38	15.89	11.68	14.68	28.60	20.37
Financial Ratio	Efficiency	Finished Goods turnover	27.95	23.59	18.91	15.26	15.88	52.72	8.06	29.75	32.96	11.48	15.23	30.01
Financial Ratio	Efficiency	Operating Expense as % of sales	97.77	93.17	85.74	98.16	97.48	97.66	94.19	92.42	92.92	88.58	78.57	90.06
Financial Ratio	Efficiency	Asset utilisation	3.89	2.75	2.09	4.07	3.51	4.11	2.55	2.92	2.78	1.49	1.86	2.92

b) Model scores:

Type (Weight in %)	Ratio	Weight	Average			Cooperative dairies			Private dairies			Global FMCG entities		
			Coop	Private	Global	Sabar	Amul	Rajkot	Umang Dairy	Hatsun Agro	Kwality	Mondelez	Nestle	Britannia
Liquidity(30%)														
	Current Ratio	0.10	10	5	15	20	5	5	10	5	10	5	20	15
	Cash Flow Liquidity	0.10	5	10	15	5	5	5	5	10	15	10	25	15
	Quick Ratio	0.10	20	5	15	20	5	2	5	5	10	10	25	10
Solvency(30%)														
	Debt Equity Ratio	0.15	5	10	5	5	5	20	5	5	5	5	5	5
	Cash Flow Adequacy	0.15	15	10	25	20	10	15	15	5	15	25	25	25
Profitability (20%)														
	Net Profit Margin	0.05	5	5	15	5	5	5	10	5	10	10	15	10
	Return on Capital Employed	0.05	5	20	25	5	5	5	25	10	15	20	25	25
	Cash Flow Margin	0.05	5	10	20	10	5	5	10	10	10	20	25	15
	Cash Return on Assets	0.05	10	15	25	15	10	5	10	20	15	15	25	25
Efficiency(20%)														
	Finished goods turnover	0.05	15	15	10	10	10	25	5	15	20	10	10	20
	Operating Expense as % of sales	0.05	5	10	15	5	5	5	10	10	10	15	25	15
	Asset utilization	0.10	15	10	10	15	15	15	10	10	10	10	10	10

c) Model weighted scores:

Type (Weight)	Sub Type Ratio	Weight	Average			Cooperative			Private			Global		
			Coop	Private	Global	Sabar	Amul	Rajkot	Umang	Hatsun Agro	Kwality	Mondelez	Nestle	Britannia
Liquidity (30%)														
	Current Ratio	0.1	1	0.5	1.5	2	0.5	0.5	1	0.5	1	0.5	2	1.5
	Cash Flow Liquidity	0.1	0.5	1	1.5	0.5	0.5	0.5	0.5	1	1.5	1	2.5	1.5
	Quick Ratio	0.1	2	0.5	1.5	2	0.5	2	0.5	0.5	1	1	2.5	1
Solvency (30%)														
	Debt Equity Ratio	0.15	1.5	1.5	0.75	0.75	0.75	2.25	0.75	0.75	0.75	0.75	0.75	0.75
	Cash Flow Adequacy	0.15	2.25	1.5	3.75	3	1.5	2.25	2.25	0.75	2.25	3.75	3.75	3.75
Profitability(20%)														
	Net Profit Margin	0.05	0.25	0.25	0.75	0.25	0.25	0.25	0.5	0.25	0.5	0.5	0.75	0.5
	Return on capital employed	0.05	0.25	1	1.25	0.25	0.25	0.25	1.25	0.5	0.75	1	1.25	1.25
	Cash Flow Margin	0.05	0.25	0.5	1	0.5	0.25	0.25	0.5	0.5	0.5	1	1.25	0.75
	Cash Return on Assets	0.05	0.5	0.75	1.25	0.75	0.5	0.5	0.5	1	0.75	0.75	1.25	1.25
Efficiency (20%)														
	Finished Goods turnover	0.05	0.75	0.75	0.5	0.5	0.5	1.25	0.25	0.75	1	0.5	0.5	1
	Operating Expense as % of sales	0.05	0.25	0.5	0.75	0.25	0.25	0.25	0.5	0.5	0.5	0.75	1.25	0.75
	Asset utilization	0.1	1.5	1	1	1.5	1.5	1.5	1	1	1	1	1	1
	Final score		10.25	9.75	15.5	12.25	7.25	12.5	9.5	8	11.5	12.5	18.75	15

Score range	Financial performance
Less than 4	Very poor
4-8	Poor
8-12	Average
12-16	Good
More than 16	Very Good

Validation of Proposed Model

A) Model validation using Altman's Z score :

We have validated the results of our proposed model with Altman's Z score. The subjects which show better financial performance based on our proposed model also have a higher Z score (i.e., lower likelihood of bankruptcy or better financial strength). The Z score of Global entities (incorporated in India) is the highest, so it is the score as per our proposed model. However, the Altman Z score model has certain shortcomings, which we have addressed in our proposed model :

1) Altman's Z score model only considers a set of 5 ratios (with pre-specified coefficients). In comparison, our model considers 12 ratios covering every gamut of financial performance, including cash flow ratios, which are ignored in Altman's Z score model. Thus, the Altman model rewards accrual profits over cash profits.

2) Altman's Z score model uses total assets in the denominator for four out of the five ratios. However, the book value of total assets might have decreased substantially over the years due to depreciation expense. Thus, a lower denominator amplifies the ratio manifold and conveys a (positive) distorted picture.

3) Further, the Altman Z score model requires Market Value of Equity as a component for calculating one of its input ratios (X4 = Market value of Equity / Book Value of liabilities). Thus, it cannot be applied to cooperatives or unlisted private/global dairies whose market value of equity is unavailable or stale.

    According to Altman's Z score model, all nine entities are in the safe zone. However, based on our proposed model, we observe that three entities are financially weak. As an example, we consider Hatsun Agro. It has a current ratio of 0.5, which means that it only has 50 paise of current assets for every rupee of current liabilities. Furthermore, the operating cash flows are a meagre 36 paisa for every rupee of current liability. The Net Profit margin is less than 2%. It is visible that the entity has a short-term liquidity crunch and operates on razor-thin profit margins. In such a situation, while immediate bankruptcy may be unlikely, the financial performance is undoubtedly weak. Thus, any exogenous shock from the external market, price disruptions, cash flow mismatches, or a black swan event may

adversely impact the entity's 'going concerned' ability. This vulnerability gets correctly captured in our proposed model, which was overlooked in Altman's Z score model.

B) Validation using ANOVA and Post hoc analysis :

We have also validated our model using ANOVA and Post hoc analysis at a 5% significance level. A summary of the same is as follows :

H₁ : Average Current Ratio (C.R.) of global FMCG entities is not significantly different than private and cooperative dairies for the last ten years.

H₂ : Average Debt-Equity (DER) of global FMCG entities is not significantly different than private and cooperative dairies for the last ten years.

H₃ : Average Net Profit Margin (NPM) of global FMCG entities is not significantly different than private and cooperative dairies for the last ten years.

H₄ : Average Return on Capital Employed (ROCE) of global FMCG entities is not significantly different than private and cooperative dairies for the last ten years.

In the below descriptive longitudinal study, the researcher has considered nine different entities in the dairy sector and analyzed their financial performance for the last ten years. The researchers have selectively examined the average of four main financial ratios, i.e., Current Ratio, Debt Equity Ratio, Net Profit Margin and Return on Capital Employed. ANOVA and Post hoc analysis has been used to compare the financial parameters of the three different types of entities (Global FMCG companies, private dairies and cooperative dairies)

Test Results

[H₁] The results of ANOVA conclude that the average Current Ratio was not significantly different amongst the three types of entities. The results indicate F[2,89], [F_c = 2.613], Sig=0.079 [P>0.05]. The average Current Ratio of cooperative dairies [$\overline{X}_{Coop}$ = 1.39, S.D. = 1.46] is only marginally higher than that of global FMCG entities [$\overline{X}_{GL}$ =1.33, S.D. = 0.55] and private dairies [$\overline{X}_{Pvt}$ =0.89, S.D. = 0.44]. Since the ratio is not significantly different, a Post hoc analysis was not conducted.

Interpretation : The H_1 may not be rejected, meaning that the Current Ratio is not significantly different amongst the three types of entities.

[H$_2$] ANOVA and Post hoc analysis results conclude that the average debt-equity ratio was significantly different amongst the three types of entities. The results indicate at F[2,89], [F_c =137.30], Sig=0.00 [P<0.05]. Post hoc analysis further indicates that the average debt-equity ratio for cooperative dairies is significantly different than that of private dairies [$\overline{X}_{Coop}$ =3.24, S.D. = 2.34] vs [$\overline{X}_{Pvt}$ =1.26, S.D. = 1.56]. Further, the debt-equity ratio for private dairies is also significantly different than that of global FMCG entities [$\overline{X}_{Pvt}$ =1.26, S.D. = 1.56] vs [$\overline{X}_{GLO}$ =0.24, S.D. = 0.34].

Interpretation : The H_2 may be rejected, meaning that the debt-equity ratio amongst the three types of entities is significantly different.

[H$_3$] The results of ANOVA and Post hoc analysis conclude that the average Net Profit Margin was significantly different amongst the three types of entities. The results indicate F[2,89], [F_c = 61.244], Sig=0.00 [P<0.05]. We observe that the net profit margin of global FMCG entities is significantly different than private dairies [$\overline{X}_G$ =8.05, S.D. = 3.71] Vs. [$\overline{X}_{Pvt}$ =3.75, S.D. = 2.66]. Further, the net profit margin of private dairies is also significantly different than cooperative dairies [$\overline{X}_{Coop}$ = 0.50, S.D. = 0.22].

Interpretation : The H_3 may be rejected, meaning that the NPM is significantly different amongst the three types of entities.

[H$_4$] The results of ANOVA and Post hoc analysis conclude that the Return on Capital Employed is significantly different amongst the three types of entities. The results indicate at F[2.89], (F_c =13.861), Sig = 0.00 [P < 0.05]. Post hoc analysis further indicates that the average Return on Capital Employed for global FMCG entities is significantly different than that of private diaries [$\overline{X}_{GLO}$ = 35.49, S.D. = 27.32] vs [$\overline{X}_{Pvt}$ = 19.87, S.D. = 27.32]. Furthermore, the average value of Return on Capital Employed of private dairies is also significantly different than that of cooperatives. [$\overline{X}_{Pvt}$ =19.87, S.D. = 27.32] vs [$\overline{X}_{Coop}$ =5.40, S.D. = 7.10].

Interpretation : The H_4 may be rejected, meaning that the Return on capital employed amongst the three types of entities is significantly different.

The above statistical analysis suggests that the Debt equity ratio, Net Profit Margin and Return on capital employed are significantly different amongst the three types of entities while the Current ratio is not significantly different (at 95% confidence interval). The ratios for global FMCG entities are better than that for cooperative dairies, with private dairies falling in-between. This further asserts our proposed model's findings and confirms the significant differences in financial performance between global FMCG entities and cooperative dairies.

Tabular Summary

Ratio	Mean	Standard Deviation	F. Value
Current Ratio	$\overline{X}$	S.D.	
Private dairies	0.89	0.44	
Global FMCG entities	1.33	0.55	Sig. = 0.079
Cooperative dairies	1.39	1.46	
Debt Equity Ratio	$\overline{X}$	S.D.	
Private dairies	1.26	1.56	
Global FMCG entities	0.24	0.34	Sig. = 0.000
Cooperative dairies	3.24	2.34	
Net Profit Margin			
Private dairies	3.75	2.66	
Global FMCG entities	8.05	3.71	Sig. = 0.000
Co-operative dairies	0.50	0.22	
Return on Capital Employed	$\overline{X}$	S.D.	
Private dairies	19.87	25.52	
Global FMCG entities	35.49	27.32	Sig. = 0.000
Cooperative dairies	5.40	7.10	

V. Conclusion

The proposed model has been developed to exhaustively capture every relevant aspect of an entity's financial performance, irrespective of its business model. The general perception that cooperatives are financially weak (vis-a-vis IOF's) is evident from our model. Management of these cooperatives can strive to enhance operational efficiency and focus on eliminating wasteful expenditure.

Instead of analyzing the financial ratios in isolation and forming a subjective view, the proposed model looks holistically at every vital aspect of financial performance and assigns an objective score to each entity. The model focuses on traditional accounting tools like ratios and trends and incorporates cash flow ratios to add another essential dimension to measuring financial performance. As can be observed from the final scores of the proposed model, the financial performance of Global FMCG entities is better than cooperatives and private dairies. This is because global FMCG entities (incorporated in India) aimto increase shareholder wealth, i.e., maximizing profitability. The objective of a cooperative society, on the other hand, is not to maximize profits but to enhance the welfare of its members. Therefore, the cooperatives distribute most of their revenues among the member farmers (thereby increasing the cost of raw material procurement) and retain only a minimal portion of it as retained earnings. This leads to a significant difference in profitability metrics.

Policymakers like the International dairy federation, Central Government, State Governments, Department of Animal Husbandary, NDDB, newly created Ministry of Cooperation having the motto "Sahkar se Samriddhi" may use our proposed model to understand the various shortcomings of cooperatives and take adequate and timely actions to strengthen them.

Scope for further research

Unlike private or global companies, the objective of a cooperative society is not profit maximization. Thus, the efficiency with which a cooperative achieves its objectives cannot be measured solely based on its financial performance. Thus, a more comprehensive model can be developed which also considers the nonfinancial aspects of such cooperatives. Further, even while measuring the 'financial performance of a cooperative many other financial tools can be used like trend analysis and comparative and common-size financial statements. Similar research can also be undertaken for entities in a separate jurisdiction, apart from India. Such a study could succinctly bring out the differences in specific financial and nonfinancial parameters of Indian and foreign dairies.

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Annexure : Score Ranges for Individual Ratios :

Current Ratio	Score
Less than 0 or more than 4	0
0-1 or 3-4	5
1-1.25 or 2.75-3	10
1.25-1.5 or 2.5-2.75	15
1.5-1.75 or 2.25-2.5	20
1.75 - 2.25	25

C.F. Liquidity	Score
Less than 0	0
0 - 0.25	5
0.25 - 0.5	10
0.5 - 0.75	15
0.75 – 1	20
More than 1	25

Quick Ratio	Score
Less than 0 or more than 2	0
0-0.5 or 1.5-1.75	5
0.5 - 0.625 or 1.375 - 1.5	10
0.625 - 0.75 or 1.25 - 1.375	15
0.75-0.875 or 1.125-1.25	20
0.875-1.125	25

D.E. Ratio	Score
Less than 0 or more than 4	0
0-1 or 3-4	5
1-1.25 or 2.75-3	10
1.25-1.5 or 2.5-2.75	15
1.5-1.75 or 2.25-2.5	20
1.75 - 2.25	25

C.F. Adequacy Ratio	Score
Less than 0	0
0-0.25	5
0.25 - 0.5	10
0.5 - 0.75	15
0.75 – 1	20
More than 1	25

N.P. Margin	Score
Less than 0%	0
0%-4%	5
4% - 8%	10
8% - 12%	15
12% – 16%	20
More than 16%	25

RoCE	Score
Less than 0%	0
0% - 5%	5
5% - 10%	10
10% - 15%	15
15% - 20%	20
More than 20%	25

C.F. Margin	Score
Less than 0%	0
0%-3%	5
3% - 6%	10
6% - 9%	15
9% - 12%	20
More than 12%	25

Cash RoA	Score
Less than 0%	0
0%-5%	5
5% - 10%	10
10% - 15%	15
15% - 20%	20
More than 20%	25

F.G. Turnover	Score
Less than 0	0
0-10	5
10-20	10
20-30	15
30-40	20
More than 40	25

Operating expense ratio	Score
More than 100%	0
95% - 100%	5
90% - 95%	10
85% - 90%	15
80% - 85%	20
Less than 80%	25

Asset utilization	Score
Less than 0	0
0-1	5
1-3	10
3-5	15
5-7	20
More than 7	25

Corporate Governance Failure of ABG Shipyard Limited

Yamunaben Parikh, Kamini Shah and Dhartiben Rami

Abstract : *Financial statement fraud (FSF)is increasing rapidly in numbers and it creates significant consequences for the organization and its stakeholders as well as public confidence in the capital market. According to the Certified Fraud Examiners, organizations lose 5% of revenue to fraud each year. Therefore, early detection and prevention of fraud are necessary to minimize the negative impact of fraud on any organisation.*

Purpose : *The main objective of the study is to know whether ABG shipyard limited had probable financial statement fraud and financial distress or not during the study period with the help of various fraud detection models.*

Methodology : *The case study has been carried out using descriptive and causal research design in which Beneish M-Score, Altman Z-Score, and Pustylnick P-Score model have been employed from secondary data collected through annual reports of ABG shipyard limited.*

Outcome : *Study shows that ABG shipyard limited has high possibility of financial statement fraud as each score had detected some irregularities in the financial statements of the company. The company's financial distress score has fluctuation in the majority of the years. Similarly M score has also suggested the company's manipulation in nine years while P-score has suggested that company's financial statements have probable earnings manipulation in five years out of ten years.*

Keywords : Financial Statement Fraud (FSF), Beneish M-Score, Altman Z-Score, Pustylnick P-Score.

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Introduction

As the basic principles of Corporate Governance, each corporate organization must be transparent and fair in their financial statements when dealing with stakeholders but if the accounts are prepared with misstatements of actual figures, efficient corporate governance cannot be established within the organization. Thus, financial statement frauds are a threat to the effective implementation of corporate governance of any organization. Financial statement fraud (FSF) is increasing by an alarming number and creates significant consequences for the organization and its stakeholders as well as public confidence in the capital market. In India, high-profile cases of fraudulent and misstated financial reporting have raised concerns about the integrity of the financial reporting process' and 'called into question the role of management, auditors, regulators, and analysts, among others.' (Bhasin, 2013)

Enron, WorldCom, Tyco, Parmalat, HealthSouth, and Lehman Brothers are some of the most well-known accounting scandals of the last two decades in the world. (Corporate Finance Institute, 2015-2022) In India, Many notable corporate frauds have occurred in the recent past like Jet Airways, Bhushan Steel, 2G Spectrum, Satyam Computers, Kingfisher Airlines, PNB bank, Hawala scam, etc. (Garg, 2011) According to the Certified Fraud Examiners, the organization loses 5% of revenue to fraud each year. (Association of Certified Fraud Examiners, 2022) The manipulation in financial statements is done by the way of altering various figures of items of a financial statement such as showing high revenue, charging low depreciation, capitalizing revenue expenses, overvaluation of fixed assets, misuse of personal judgment in accounting standards, concepts, etc. (Corporate Financial Institute, 2015-2021) which adversely affect the organization, its stakeholders and capital market.Therefore, early detection and prevention of fraud are necessary steps to minimize the negative impact of fraudulent financial statements.

What is Fraud?

The Companies Act, 2013 [SEC 447] (i) explains "Fraud concerning affairs of a company or a body corporate, includes any act; any omission; concealment of any factor, abuse of position committed by a person or any other person with the connivance in any matter with intent to deceive, to gain undue advantage from or to injure the interest of the company, its shareholders, its creditors or any other person whether or not there is any wrongful gain or wrongful loss." (Ministry of Corporate Affairs, 2013).

What is Financial Statement Fraud (FSF)?

The Association of Certified Fraud Examiners (ACFE) defines accounting fraud as "deception or misrepresentation that an individual or entity makes knowing that the misrepresentation could result in some unauthorized benefit to the individual or to the entity or some other party." (Bloomenthal, 2021)

Brief Profile of ABG Shipyard Limited

ABG Shipyard Limited is one of the subsidiary companies of Aditya Birla Group and it was one of the larger private-sector shipbuilding company in India in its golden days. It was incorporated in the year 1985 as Magdalla Shipyard Pvt Ltd engaged in the business of shipbuilding and ship repair and it is located at Dahej and Surat in Gujarat. (Business Standard, 2022) ABG Shipyard Ltd has been entangled in the alleged bank frauds of a total of Rs 22,842 crore between 2012 and 2017. As per CBI's report, the company took a loan from a consortium of 28 banks including State Bank of India (SBI), IDBI and ICICI and then diverted the money to the overseas subsidiaries from the loan amount, bought the assets in the name of affiliated companies as well as indulged into related party transactions. Several efforts were also made to revive ABG Shipyard Limited's operation by the banks under the scheme of corporate debt restructuring in the year 2014. But the shipping industry was going through a slump and the company failed to survive and the accounts of the ABG shipyard were classified as NPA in the year July 2016. ABG shipyard limited was suspended from trading its securities in BSE due to failing in the compliance of certain listing regulations of BSE March, 2016. (Press Trust of India, 2017) In January 2019, SBI discovered the fraud but they filed the complaint in November that year. Finally, in August 2020, a comprehensive complaint was filed by the SBI. (Bhardwaj, 2022) and in the same month Earnest and Young conducted a forensic audit of the company resulting in the discovery of fraud from the year 2006 to 2017 fraud conducted through "diversion of funds, misappropriation, and criminal breach of trust, with an objective to gain unlawfully at the cost of the bank's funds." It was found that the company had availed three different types of loans from 28 banks which were then diverted to 98 sister concern companies that were used for creating personal assets. (ET Online, 2022).

Review of Literature

Novanto & Davianti, 2022 examined the difference in profitability ratio in affecting a company's stock returns based on identification of detected and

non-detected earnings manipulation. Earnings per Share, Net Profit Margin, and Return on Assets are the profitability measures employed in their study, with the firm size acting as the control variable. Purposive sampling was utilized to gather data from 340 manufacturing businesses listed in the Indonesia Stock Exchange between 2016 to 2019. The study used Beneish M-Score to identify probable earnings manipulation and Multiple regression to examine the simultaneous, partial and influence of independent variables on stock return. The study shows that the profitability ratio affects both detected and non-detected firms. Partially, the EPS and ROA hada significant positive impact on stock return in the case of non-detected firms whereas NPA had an insignificant effect. In the case of detected manipulation firms, EPS and NPM had a significant positive impact whereas ROA had a significant negative impact. In the case of Both detected and non-detected earnings, manipulation revealed a negligible effect on the firm Size.

Saleh, Aladwan, Alsinglawi, & Ibrahim Saleh, 2021 investigated the association between fraud causes and fraudulent financial statements. The study also gave further insight into the application of Alman's Z- score and Dechow F-score to check probable earning manipulation of Jordanian industrial owners. The duration of study was 2015 to 2019. The fraudulent financial statement was the dependent variable in the analysis, and the separate fraud factors such as financial security, external pressure, financial priorities, and the nature of the business independent variable were taken. The findings of the study reveal that Jordanian manufacturing firms were engaged in the conduct of false financial statements and the finding of the study verified the accuracy and precision of all the fraud detection models used in the study.

MacCarthy, 2017 conducted a case study using Altman Z-score and Beneish M-score Models to detect financial frauds and corporate failure of Enron Corporation. Financial data from the US SEC Edgar database was gathered over five years, from 1996 to 2000. The study reveals that when the two models are used simultaneously, stakeholders would be better protected than when only the Altman Z-score was used.

Omar, Koya, Sanusi, & Shafie, 2014 explained that financial statement fraud is a big issue for organizations worldwide. The study weights in that It would not be significant whether the organization is big or tiny or what country or industry the organization comes from, as long as humans are involved in an organization, the risk of fraud will be genuine. This study observed a local case with

explanations on how the fraud was committed and the detection techniques involved with help of the Beneish model and ratio analysis. The calculation of M-score and Ratio Analysis suggests that Megan Media Holdings Berhad indulges in earning manipulation and shows many redflags in both techniques.

Omoye & Eragbhe, 2014 investigated accounting ratio and false financial statement detection among firms quoted in the Nigerian stock exchange. Accounting information was collected from the reported financial statement of 30 sampled in financial and nonfinancial sectors covering a time of 5 years (2007 to 2011). The pooled data binary log it regression revealed that investment and liquidity ratios were significantly related to financial statement fraud. Thus, the study suggested to the investors and stakeholders to examine the accounting ratio to check the probability of fraud financial statements before engaging with the company and it was suggested to the government and regulatory authorities that the financial statements of a firm should be properly audited and endorsed by them before being released to the public.

Bhasin M. , 2013 conducted a case study on the "creative-accounting" scandal of Satyam computer ltd. In which the fraud was examined in-depth, by the sequence of events occurring, the aftermath of events, major parties involved, and which type of follow-up actions were undertaken in India including what lessons can be learned from Satyam computer ltd fraud. In this study, the actual and reported values of the balance sheet were examined, and the promoter's shareholding pattern was examined. The study reveals that to maintain the reliability and integrity of the financial statement in India government should tighten the corporate governance rules and norms for auditors and accountants.

Research Gap

Numerous studies have been carried out to detect probable financial statement fraud using FSF detection models around the world. But when we observes the studies conducted in India, we find limited studies that to has been carried out with FSF detection models other then M score. Also we did not come across any research on ABG shipyard which used FSF detection models. Hence, taking it as gap here, an attempt has been made to detect probable financial statement fraud using Altman Z-score, Beneish M- score and Pustylnick P-Score with the help of case study analysis.

Research Methodology

Research Problem

Increased financial statement fraud is a nuisance to good corporate governance. The developed countries are employing various techniques to detect such frauds, but if we talk about India, the adoption of unique FSF detection models at the time of auditing the company is still very far. In cases where a hint of fraud is seen in the company, the need of checking their financial statements arises as the instances of fraud start from the red flags or misstatement of smaller amounts in the financial statements. If detected earlier, these red flags can reduce the damage or altogether stops the frauds in the earlier stages. Thus, to identify the misstating information in the financial statement, identification of such mistreatments becomes essential. In the report of Ernest & Young, the banking fraud o ABG Shipyard was discovered in which the company took loans of Rs.22,842 crore from various banks but the company was unable to repay and later on it was declared NPA. An independent audit led by Earnest & Young detected various evidence of the fraud. Which leads to the question that whether these irregularities in the statement could have been identified earlier if FSF detection models were instigated by the banks? Soto identify whether there were any instances of FSF in the ABG shipyard limited, this study has been carried out.

Significance of the Study

To minimize the negative impact of financial statement fraud, early detection and prevention are required. In this case study, Altman Z-score, Beneish M-score and Pustylnick P-Score are used to know the financial soundness and to detect probable financial statement fraud. This study is helpful to the auditors, bankers and fraud examiners to pinpoint the instances when and where the probable fraud may have happened. Auditors and fraud examiners can use the case study in the calculation of these fraud detection models while performing their audit duties which will assist them in detecting fraud. For banks also, before giving loan to a corporate client, they can use fraud detection models to check financial soundness and any misstatement in the financial statement of the company.

Research Objectives

1. To examine the probable financial statement fraud or earning manipulation in the financial statements of ABG shipyard Limited using the Beneish M-score model and Pustylnick P-Score during the study period.

2. To study the corporate distress of ABG shipyard limited using Altman Z- Score model during the study period.

Research Design

The study uses a descriptive and causal research design based on secondary data collected from annual reports of ABG shipyard limited.

Tools and Techniques

In this study, Beneish M-score and Pustylnick P-Score are used to analyze the probable financial statement fraud as well as Altman- Z score is used to analyze financial distress. The period of the study is from 2006 to 2016 i.e 10 years. The data is collected from the annual reports of the website of BSE.

Calculation of Models

1. **Altman Z- Score =** $1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1X_5$

Table-1 : Altman Z-Score

Sr. No.	Formulas
1.	$X_1 = \dfrac{Working\ Capital}{Total\ assets}$
2.	$X_2 = \dfrac{Re\,tained\ Earning}{Total\ assets}$
3.	$X_3 = \dfrac{Earning\ Before\ Interest\ }{Total\ Asset}$
4.	$X_4 = \dfrac{Market\ Capitalisation}{Total\ Liabilities}$
5.	$X_5 = \dfrac{Net\ Sales}{Total\ Assets}$
	Interpretation of Z Score :
•	Z- Score is **greater than 2.67 = Non distress zone**
•	Z- Score is **greater than 1.81 and less than 2.67 = grey zone**
•	Z-Score is **less than 1.81 = distress zone**

Source : (Saleh, Aladwan, Aladwan, & Saleh, 2021)

2.   Beneish M-Score

$$= -4.84 + 0.92 \times DSRI + 0.528 \times GMI + 0.404 \times AQI + 0.892 + 0.115 \times DEPI - 0.172 \times SGAI + 4.679 \times TATA - 0.327 \times LVGI$$

Table-2 : Beneish M-Score

Name of index	Formulas
Days Sales in Receivables Index (DSRI)	$\left(\dfrac{\text{Net Receivables}_t}{\text{Sales}_t} \right)$
Gross Margin Index (GMI)	$\dfrac{\left[\left(\text{Sales}_{t-1} - \text{Cost of Goods sol} \right. \right.}{\left[\left(\text{Sales}_t - \text{Cost of Goods so} \right. \right.}$
Asset Quality Index (GMI)	$\dfrac{\left[1 - \left(\text{Current Assets}_t + \text{PPE}_t \right. \right.}{\left[1 - \left(\text{Current Assets}_{t-1} + \text{PPE}_{t-} \right. \right.}$
Sales Growth Index (SGI)	$\dfrac{\text{Sales}_t}{\text{Sales}_{t-1}}$
Depreciation Index (DEPI)	$\dfrac{\left[\text{Depreciation}_{t-1} / \text{Depreciation} \right.}{\left[\text{Depreciation}_t / \text{Depreciatio} \right.}$
Sales, General and Admini- -stration Index (SGAI)	$\dfrac{\left[\text{Sales, general and administr} \right.}{\left[\text{Sales, general and administrati} \right.}$
Total Accruals to Total Assets Index (TATA)	$\dfrac{\text{Total Accruals}_t}{\text{Total Assets}_t}$
Leverage Index	$\dfrac{\left[\text{LTD}_t + \text{Current liabilities}_t / \right.}{\left[\text{LTD}_{t-1} + \text{Current liabilities}_{t-1} \right.}$
Detection of Manipulation	M- score < -2.22 = Non manipulated statements M- score > -2.22 = Manipulated statements

Source : (Beneish, 1999)

3.   Pustylnick P- Score =

$$= 1.2 \times X_1 + 1.4 \times X_2 + 3.3 \times X_3 + 0.6 \times X_4 + 1.0 \times X_5$$

Table-3 : Pustylnick P-score

Sr. No.	Formulas
1.	$X_1 = \dfrac{\text{Shareholder's Equity}}{\text{Total Assets}}$
2.	$X_2 = \dfrac{\text{Retained Earnings}}{\text{Total Assets}}$
3.	$X_3 = \dfrac{\text{EBIT}}{\text{Total Assets}}$
4.	$X_4 = \dfrac{\text{Market value of Equit}}{\text{Book value of Total Liab}}$
5.	$X_5 = \dfrac{\text{Revenue}}{\text{Total Assets}}$
ΔP	$\Delta P = \dfrac{P(t) - P(t-1)}{\left|P(t-1)\right|}$
ΔZ	$\Delta Z = \dfrac{Z(t) - Z(t-1)}{\left|Z(t-1)\right|}$
Detection of Manipulation	ΔP < ΔZ = Non manipulated Statements ΔP > ΔZ = Manipulated statements

Source : (Pustylnick, 2011).

Results and Discussion

Financial Distress of ABG Shipyard Limited

Table-4 Altman Z- score calculation shows that ABG shipyard Limited was showing in distress zone form the years 2008-09 to 2013-14. Only in the year 2014-15 company was in Non-distress Zone because the market value of companies was 3 times to its total liabilities and total liabilities decreased suddenly from Rs. 1,08,17,99,00,000 in 2013-14 to Rs. 4,32,97,84,000 in 2014-15. The clarification regardingpayment of total liabilities was not given in the annual

report of ABG shipyard limited. Working capital to total assets ratio suddenly increases to 1.56 in the year 2014-15 due to increase in current asset and decrease in current liabilities in the year 2014-2015 which are major red flags about the possible manipulation. In the year 2014-2015 the ABG shipyard limited was innon-distress zone and suddenly the company in the year 2015-16 was again in distress zone due to increase in total liabilities, huge operating loss and negative retained earnings. These instants showsthe high possibility of financial statement manipulation.

Table-4 : Altman Z-Score of ABG Shipyard Limited

CALCUATIONS	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
X_1 = Working capital / Total assets	0.49	0.29	0.33	0.39	-0.05	0.56	-0.05	0.10	1.56	-0.08
X_2 = Retained earnings / Total assets	0.33	0.23	0.20	0.20	0.16	0.16	0.14	0.11	0.40	-0.29
X_3 = EBIT / Total assets	0.32	0.23	0.06	0.06	0.07	0.06	0.05	0.03	-0.32	-0.17
X_4 = Market value of equity / Total liabilities	1.45	1.45	0.44	0.25	0.25	0.27	0.20	0.14	3.00	0.05
X_5 = Net sales / Total assets	0.43	0.32	0.34	0.34	0.27	0.27	0.20	0.13	0.32	0.00
Z- Score = 1.2X₁ +1.4X₂ + 3.3X₃ + 0.6X₄ + 0.999X₅	**3.40**	**2.59**	**1.47**	**1.44**	**0.81**	**1.53**	**0.62**	**0.57**	**3.50**	**-1.03**
Non distress Zone (Z score > 2.67)	Yes	-	-	-	-	-	-	-	Yes	-
Grey Zone (1.81 ≤ Z score ≤ 2.67)	-	Yes	-	-	-	-	-	-	-	-
Distress Zone (Z score < 1.81)	-	-	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes

Source: Computed by Authors
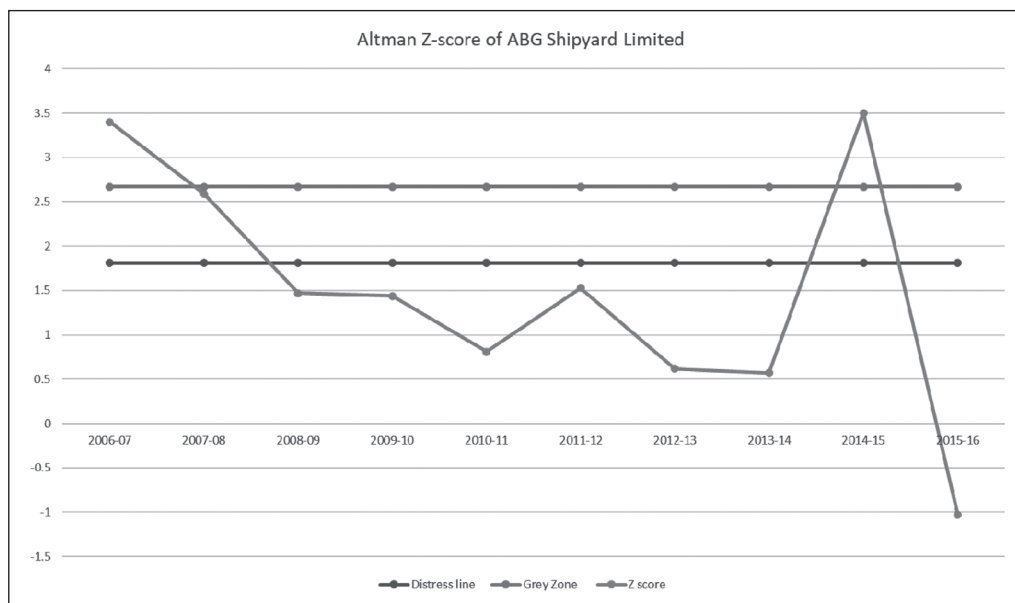
Beneish M- score of ABG shipyard Limited

Table-5 : Beneish M-Score of ABG Shipyard Limited

Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
DSRI< 1.464	1.01	0.81	**3.22**	1.39	**1.53**	0.44	1.19	**2.70**	**2.40**	**11.80**
GMI< 1.192	0.34	1.04	**4.03**	0.98	0.75	1.01	0.94	1.18	-0.22	0.02
AQI<1.0	0.99	1.00	0.69	0.93	**1.03**	**1.04**	**1.14**	**1.10**	**10.56**	0.10
SGI< 1.606	1.30	1.37	1.46	1.28	1.15	1.15	0.88	0.76	0.25	0.09
DEPI< 1.077	0.81	0.67	0.38	0.86	0.58	1.02	1.00	**1.13**	**1.17**	**1.12**
SGAI< 1.001	0.86	0.89	**1.37**	0.98	**1.17**	0.85	**1.27**	**1.91**	**4.72**	**35.63**
LVGI< 1.00	**1.24**	**1.20**	**1.05**	**1.01**	**1.06**	0.26	**3.91**	**1.06**	**10.95**	0.13
TATAI< 0.030	**0.31**	0.00	0.11	0.03	-0.17	0.06	0.02	-0.04	-0.02	-0.27
8 Variable M score	**-0.77**	**-2.00**	**2.13**	**-1.47**	**-2.53**	**-2.18**	**-2.03**	**-0.99**	**0.97**	**-1.14**
Probable Manipulation (M- score > -2.22)	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Source: Computed by Authors

Table-5 Beneish M-score calculation detected continuous probable financial statement fraud from 2012 to 2016 and only in the year 2011 probable financial statement fraud was not found.

● DSRI (Days sales in receivable index) of ABG shipyard limited from 2006-07 to 2015-16 are 1.01, 0.81, 3.22, 1.39, 1.53, 0.44, 1.19, **2.70, 2.40, 11.80** respectively. In the year 2014-15 DSRI was 2.40 and suddenly increased in 2015-16 to 11.80 showing the drastic change in the DSRI because in the year 2014-15 sales were 3,92,12,71,000 [1] and it drastically decreases in the following year to 34,27,13,000 it shows the reflags and high possibility of financial statement fraud.

● GMI (Gross margin index) of ABG shipyard limited from 2006-07 to 2015-16 are 0.34, 1.04, **4.03**, 0.98, 0.75, **1.01**, 0.94, **1.18**, -0.22, 0.02 respectively. In the years 2008-09 GMI had a sudden increase i.e., 4.03 from 1.04 indicating a lower gross margin suggesting a high possibility of misrepresentation of data.

● AQI (Assets quality index) of ABG shipyard limited from 2006-07 to 2015-16 are 0.99, 1.00, 0.69, 0.93, 1.03, 1.04, 1.14, 1.10, **10.56**, 0.10 respectively. In the year 2013-14 AQI was 1.10 but in next year it risen to 10.56 in 2014-15. This shows high possibility of capitalizing company expenses or potential increase in the cost deferral or sudden increase in the value of intangible assets leading to manipulation to maintain profitability.

- SGI (Sales Index) of ABG shipyard limited from 2006-07 to 2015-16 are 1.30, 1.37, 1.46, 1.28, 1.15, 1.15, 0.88, 0.76, 0.25, 0.09 respectively. Sales Index is greater than 1 from 2006-07 to 2011-12 which shows positive growth in sales while from 2013 to 2016 shows less than 1 indicates negative sales growth. While calculating SGI it was observed that the net sales of ABG Shipyard were seeing a constant increase from 2006 till 2012, but the scenario changed from the year 2012 as following year the net sales of the company had been decreasing till the year 2016. This may result in the misstatement of data in the following years so as to show the different status of the company via changing the value of credit sales.

- DEPI (Depreciation Index) of ABG shipyard limited from 2006-07 to 2015-16 are 0.81, 0.67, 0.38, 0.86, 0.58, 1.02, 1.00, **1.13, 1.17, 1.12** respectively. An index greater than 1 in the year 2013-14, 2014-15, 2015-16 indicates the company may have reduced the amount of depreciation, showing the possibility of misstatement.

- SGAI (Sales, General and Administrative expenses index) of ABG shipyard limited from 2006-07 to 2015-16 are 0.86, 0.89, 1.37, 0.98, 1.17, 0.85, 1.27, 1.91, 4.72, 35.63 respectively. In the year 2014-15 SGAI of ABG shipyard limited was 4.72 and suddenly it increased in the following year to 35.63 it indicating reflags and the likelihood of fraud.

- TATAI (Total accrual to Total Assets index) of ABG shipyard limited from 2006-07 to 2015-16 are 0.31, 0.00, 0.11, 0.03, -0.17, 0.06, 0.02, -0.04, -0.02, -0.27respectively. There was no sudden change was observed in TATAI.

- LEVI (leverage Index) of ABG shipyard limited from 2006-07 to 2015-16 are 1.24, 1.20, 1.05, 1.01, 1.06, 0.26, 3.91, 1.06, **10.95**, 0.13 respectively. In the year 2015 company's LEVI was 10.95 which signifies a dramatic increase in long-term debt in 2014-15 showing the high possibility of financial statement fraud.

The calculated Beneish M-score is greater than the value of -2.22 in all the years except the year 2011.Hence the Beneish M-score shows that ABG shipyard limited may have engaged in probable earning manipulations and shows the likelihood of financial statement fraud.

Table-6 : Pustylnick P-Score

CALCUATIONS	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
X_1 = Shareholders Equity/Total assets	0.36	0.25	0.22	0.21	0.17	0.16	0.15	0.11	0.65	-0.25
X_2 = Retained earnings /Total assets	0.33	0.23	0.20	0.20	0.16	0.16	0.14	0.11	0.40	-0.29
X_3 = EBIT/Total assets	0.32	0.23	0.06	0.06	0.07	0.06	0.05	0.03	-0.32	-0.17
X_4 = Market value of equity/Total liabilities	1.45	1.45	0.44	0.25	0.25	0.27	0.20	0.14	3.00	0.05
X_5 = Revenue/Total assets	0.43	0.32	0.34	0.34	0.27	0.27	0.20	0.13	0.32	0.00
P score	3.23	2.55	1.34	1.21	1.08	1.06	0.86	0.59	2.41	-1.24
Δ P	***	1.55	0.34	0.21	0.08	0.06	-0.14	-0.41	1.41	-1.52
Z sore	3.40	2.59	1.47	1.44	0.81	1.53	0.62	0.57	3.50	-1.03
Δ Z	***	-0.24	-0.43	-0.02	-0.43	0.89	-0.59	-0.08	5.09	-1.29
(ΔP > ΔZ) then it means the probable existence of fraud	-	Yes	Yes	Yes	Yes	No	Yes	No	No	No

Source: Computed by Authors

In the table 6 we could not compute change in P and change in Z score as it required the market value of equity for the year 2005-06 which is not possible as the company was listed in BSE on 13-12-2005.In the Table-6 Pustylnick P-Score calculation revels that ABG shipyard limited from the year 2013-14 to 2015-16 possibility of manipulation was not detected and from the year 2007-08 to 2012-13 except 2011-12 calculation of P- score revels that ABG shipyard limited may have manipulated their financial statements during the study period. In the year 2007-08, Z-score was 2.59 which means company was in grey zone and in that year calculation of P- score revels that company was indicating probable manipulation. This indication were present in the year 2008-09 to 2013-14 as company was in distress zone during these years and calculation of P-score also showed that from the year 2008-09 to 2010-11 and 2012-13 the possibility of financial statement fraud. P score of the years 2011-12, 2013-14 to 2015-16 suggested non-manipulation.

Overall results of all these three scores have been indicating probable manipulation in majority of the observed years stating if the banks or the auditors would have implemented these scores before giving out additional loans to ABG Shipyard Limited, the banking fraud may have been reduced to lower amount and the irregularities would have been detected in earlier years.

Conclusion

The banking fraud of ABG Shipyard Limited was termed as the biggest banking fraud in India. This fraud would been detected earlier and the amount would have also been reduced to smaller, had the banks and/or auditors would have employed the FSF detection models before giving out addition loans. But this was not the case as the red flags were constantly ignored by both parties. The

ABG shipyard limited was engaged in probable financial statement fraud and there was high possibility of misstatement. Calculation of Beneish M-score shows that during the study period, M-score was always greater than -2.22 except the year 2010-11 indicating major reflags and signs of probable manipulation. Whereas Altman Z-score also showed that company was constantly in the distress zone from the year 2008-09 to 2015-16 except in the year 2014-15 indicates high possibility of bankruptcy in future. Calculation of Pustylnick P-Score also suggested that from the year 2007-08 to 2010-11 there was high possibility of probable earning manipulation whereas in the year 2013-14, 2014-15 and 2015-16 not detected earning manipulation. These suggest that the banks should employ a mechanism to check the possible mismanagement or probable financial fraud of financial statements using these models to avoid tangling in such cases to reduce their NPAs.

Limitations of the Research :

● The analysis is based on secondary data obtained from the financial statement of ABG shipyard limited.

● Time period of the study is restricted to 10 years only.

● The study is confined to case study of ABG shipyard limited only, which may not be generalized for other companies.

Scope for Further Research

● This study is confined to a case study of ABG shipyard limited only, so researchers can take more companies.

● The analysis of the study is based on Altman Z-score, Beneish M-score and Pustylnick P-Score, researchers can use other tools for future research.

Table-7 : Financial Position of ABG Shipyard Company Ltd from 2006-07 to 2015-16

PARAMETERS	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Net sales (Revenue)	7,04,36,09,000	9,66,83,76,000	14,12,22,00,000	18,07,67,00,000	20,79,19,00,000	23,91,77,00,000	20,99,65,00,000	15,94,52,00,000	3,92,12,71,000	34,27,13,000
Operating income (EBIT)	5,16,89,09,000	6,84,33,19,000	2,48,32,00,000	3,25,78,00,000	4,98,06,00,000	5,68,43,00,000	5,33,57,00,000	3,44,51,00,000	-3,90,65,24,000	-18,95,89,33,000
Current assets	13,38,28,60,000	24,41,00,18,000	26,71,05,00,000	31,62,47,00,000	47,35,54,00,000	55,40,04,00,000	71,99,16,00,000	86,77,67,00,000	90,97,64,72,000	80,19,63,19,000
Total assets	16,35,23,87,000	30,32,40,25,000	42,01,78,00,000	53,78,45,00,000	75,80,93,00,000	88,86,62,00,000	1,06,31,91,00,000	1,21,87,84,00,000	12,35,45,99,000	1,10,92,25,32,000
Current liabilities	5,29,81,82,000	15,76,34,32,000	12,93,36,00,000	10,43,18,00,000	51,06,64,000	5,70,46,000	77,63,67,00,000	74,82,45,00,000	71,70,52,06,000	88,88,17,43,000
Total liabilities	10,47,42,76,000	22,66,07,95,000	32,83,35,00,000	42,56,45,00,000	62,95,32,00,000	74,22,08,00,000	90,61,53,00,000	**1,08,17,99,00,000**	4,32,97,84,000	**1,39,14,46,71,000**
Retained earnings	5,36,88,93,000	6,83,53,48,000	8,35,64,00,000	10,71,08,00,000	12,34,69,00,000	14,13,62,00,000	15,19,46,00,000	13,18,93,00,000	4,91,54,86,000	-32,09,89,08,000
Market value of equity	15,17,01,34,953	32,83,95,75,552	14,49,24,50,652	10,62,30,30,298	15,99,93,11,613	19,82,36,44,955	18,55,21,91,236	14,72,00,07,450	12,97,90,37,599	6,78,77,37,844
Additional Variables to calculate P-score										
Shareholders' Equity	5,87,81,11,000	7,66,32,30,000	9,18,43,00,000	11,22,00,00,000	12,85,61,00,000	14,64,54,00,000	15,70,38,00,000	13,69,85,00,000	8,02,48,15,000	-28,22,21,39,000

Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Variables of Beneish M-score										
Net Sales	7,04,36,09,000	9,66,83,76,000	14,12,22,00,000	18,07,67,00,000	20,79,19,00,000	23,91,77,00,000	20,99,65,00,000	15,94,52,00,000	3,92,12,71,000	34,27,13,000
Cost of Goods	1,87,47,00,000	2,82,50,57,000	11,63,90,00,000	14,81,89,00,000	15,81,13,00,000	18,23,34,00,000	15,66,08,00,000	12,50,01,00,000	7,82,77,95,000	19,30,16,46,000
Net Receivables	7,54,70,000	8,39,52,000	39,46,00,000	70,40,00,000	1,23,85,00,000	62,67,00,000	65,70,00,000	1,34,67,00,000	79,53,06,000	81,98,73,000
Current Assets	13,38,28,60,000	24,41,00,18,000	26,71,05,00,000	31,62,47,00,000	47,35,54,00,000	55,40,04,00,000	71,99,16,00,000	86,77,67,00,000	90,97,64,72,000	80,19,63,19,000
Property, Plant and Equipment	1,29,48,45,000	1,92,71,50,000	5,11,21,00,000	5,93,50,00,000	10,17,05,00,000	9,95,75,00,000	10,00,27,00,000	8,82,32,00,000	7,51,20,00,000	6,68,28,23,000
Depreciation	7,86,26,000	9,19,11,000	16,10,00,000	40,21,00,000	63,03,00,000	99,25,00,000	1,17,14,00,000	1,04,93,00,000	99,17,94,000	81,50,78,000
Total Assets	16,35,23,87,000	30,32,40,25,000	42,01,78,00,000	53,78,45,00,000	75,80,93,00,000	88,86,62,00,000	1,06,31,91,00,000	1,21,87,84,00,000	12,35,45,99,000	1,10,92,25,32,000
SGA Expense	57,31,08,000	70,20,28,000	1,40,22,00,000	1,76,18,00,000	2,36,33,00,000	2,30,26,00,000	2,56,49,00,000	3,71,44,00,000	4,30,79,00,000	13,41,66,21,000
Net Income	1,16,29,05,000	1,60,68,18,000	1,71,10,00,000	2,28,92,00,000	1,88,80,00,000	1,80,29,00,000	1,00,02,00,000	-2,22,00,00,000	-8,97,70,13,000	-37,04,71,24,000
Cash Flow from Operations	-3,95,57,62,000	1,63,76,70,000	-2,71,59,00,000	83,50,00,000	14,94,11,00,000	-3,89,65,00,000	-73,36,00,000	2,32,48,00,000	-8,73,39,66,000	-6,80,83,40,000
Current Liabilities	5,29,81,82,000	15,76,34,32,000	12,93,36,00,000	10,43,18,00,000	51,06,64,000	5,70,46,000	77,63,67,00,000	74,82,45,00,000	71,70,52,06,000	88,88,17,43,000
Long-term Debt	4,09,57,50,000	5,22,20,19,000	17,67,99,00,000	28,97,44,00,000	7,85,38,00,000	12,51,19,00,000	7,62,63,00,000	29,00,26,00,000	43,56,02,85,000	50,19,89,79,000
Operating income (EBIT)	5,16,89,09,000	6,84,33,19,000	2,48,32,00,000	3,25,78,00,000	4,98,06,00,000	5,68,43,00,000	5,33,57,00,000	3,44,51,00,000	-3,90,65,24,000	-18,95,89,33,000

Source : ABG Shipyard Company Ltd. - Annual Reports.

Effect of Stock Futures on the Price of Individual Stocks : A Study on the Automobile Sector of Nifty Fifty

KATHA PRAVEEN KUMAR AND UMA JAYENDER

Abstract : *The onset of liberalization and the expansion of the economy in emerging markets necessitate that businesses find better strategies to handle financial and commodities risks. The most widely used tools for market players to control risk in today's securities trading are derivatives. As the price of the derivative is obtained from an underlying asset, any change in the price of the underlying asset leads to a change in the derivative's price. The main aim of the study was to know whether there is any impact of futures trading on individual stock prices. For this purpose, daily data on futures contracts and closing prices of various stocks were collected and analyzed by using the Granger casualty test. The study revealed that there is a uni-directional causality for Bajaj Auto, Hero, and Tata and no causality between stock prices and futures contracts in the case of other stocks in the Automobile sector.*

Keywords : Stocks, Futures, Commodities Risks, Security Trading, Granger Casualty Test.

Introduction

The onset of liberalization and the expansion of the economy in emerging markets necessitate that businesses find better strategies to handle financial and commodities risks. The most widely used tools for market players to control risk in today's securities trading are derivatives. By enabling investors to stretch their settlement through future contracts, derivatives lower risk. Derivatives are exchanged in stock markets or over the counter by dealers and provide additional liquidity in the securities exchange. The underlying asset's price influences the payoff of these derivatives contracts at maturity.

Derivatives products have become significant tools for price revelation, diversity of the portfolio, and risk avoidance. Recently, many developing economies have

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begun introducing derivatives contracts. Since early 2000, India has seen the interaction between the spot and future markets. The futures price can reflect and act as a leading indicator for the spot price, and it has also been considered that regulators are interested in containing and potential negative effects of this new trading area. As the price of the derivative is obtained from an underlying asset, any change in the price of the underlying asset leads to a change in the derivative's price.

Need for the Study

Since its inception in India, the derivatives market has displayed exponential growth in terms of volume and number of contracts traded as well. The market turnover has grown from Rs.2365 Cr. in 2000-2001 to Rs. 1695233134.47 crores as on 3rd January 2021. The increase in the volume of derivative trading may cause fluctuations in individual stock prices that creates volatility in the Indian stock market. So, there is a need to study the effect of derivatives trading on individual stock prices.

Review of Literature

Partha Sarathi Roy and Tanupa Chakraborty (2020) have done an empirical analysis on the efficiency of the Indian equity futures market to find the causal relationship between single-stock futures and underlying stocks traded at NSE. The objective was to establish the linkage between equity stock futures and their underlying spot markets and it was found that there was a long-run equilibrium relationship between stock futures and their underlying stocks by applying statistical tools like the cointegration test, Vector Error Correction Model, and Granger causality test. **Mandeep Kaur and Kapil Gupta (2018)** studied the hedging effectiveness of seventeen out of fifty stocks in the Nifty fifty index in the futures market segment since its inception. It was found that the effectiveness of hedging varied according to the models used and constant hedging was more efficient than dynamic hedging. **Kailash Chandra Pradhan (2017)** studied the causality between spot and futures market price discovery. It was found that there was a bi-directional causality between the Nifty spot and the futures market. It was also found that the spot markets disseminate new information stronger than futures prices using ARIMA and VEC models. **Kerkar Puja Paresh et al (2017)** studied the relationship between spot and future closing prices of stock futures of Nifty50 on NSE in India for selected industry stock futures. The study was for a period of 10 years from April 2005 to December 2015. Granger causality co-integration, unit root test, descriptive statistics, and

vector error corrections methods were used. It was found that there exists a bidirectional relationship between spot and future markets. **Namita Rajput et al (2013)** studied the impact of futures trading on the volatility of the Indian stock market. The study was for a period of 12 years from June 2000 to March 2012. Bi-variate E-Garch technique was used and it was found that the volatility spillover between spot and futures markets was unidirectional from spot to future and the spot market dominated the futures market in terms of returns and volatility. **K. Srinivasan et al (2012)** examined the repercussions on the underlying spot market volatility due to the introduction of the futures market in India for the period from January 1, 1995 TO December 31, 2011. The study found that the index futures were significantly lowering market volatility, had boosted market efficiency, and caused spillover from the futures market to spot market, which made the spot market unsettle. **Ashutosh Vashishtha (2010)** did a case study on the development of the financial derivatives market in India on the commodities market and found that India had exceeded the cash segment in terms of turnover and the number of traded contracts also.

Shakeel Moonis (2009) investigated the lead-lag relationship between Nifty futures and spot index to identify the price discovery effect. It was observed through the cointegration and causality test that spot market leads the futures market but the time of lead could not be identified. **Ash Narayan Sah et al (2005)** studied the impact of derivatives trading on the volatility of S&P Nifty and BSE Sensex using the ARCH\GARCH technique. The results established that the introduction of futures and options have negligible or no effect on the volatility as evident from GARCH (1, 1) model. **Snehal Bandivadekar and Saurab Ghosh (2003)** studied the effect of the inception of index futures on spot market volatility on both S&P CNX Nifty and BSE Sensex using the ARCH/GARCH technique. The analysis found that, while the "future effect" definitely contributes to the decrease of volatility in the case of the S&P CNX Nifty, its contribution to the reduction of volatility in the case of the BSE Sensex, where derivative turnover is significantly less, appears to be uncertain.

Objectives of the Study

- To study the growth of stock futures as a derivative tool in Automobile Sector of NIFTY50.

- To examine the effect of stock futures trading on the price of Automobile sector stocks of Nifty50.

Research Methodology

Day-wise secondary data on futures trading in the Automobile sector of Nifty fifty was collected for a period of four years from 1st April 2015 to 31 March 2021. Time series data analysis tools like the ADF test was conducted for checking the stationarity of the data and the Granger Causality test was applied to find the cause and effect of futures trading on the automobile sector stocks of Nifty Fifty.

Data Analysis

The NIFTY 50 is a benchmark Indian stock market index that represents the weighted average of 50 largest Indian companies listed on the National Stock Exchange. It covers 11 sectors (as on 28 Jan 2021) of the Indian economy and offers investment managers' exposure to the Indian market in one portfolio.
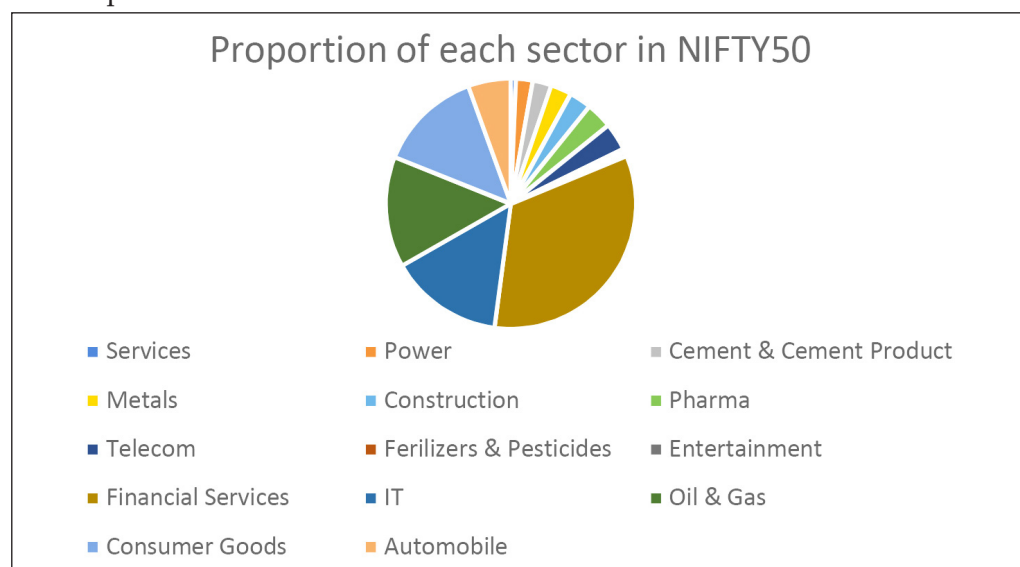
Source : NSE India.

The NIFTY 50 Index gives a weightage of 33.33% to financial services, 14.66% to IT, 14.29% to Oil & Gas, 13.41% to Consumer Goods, 5.54% to the Automobile sector, 3.37% and 2.70% respectively to Pharma and Metals and 2.41% to Cement and Cement products.

The following graphs show the volume of futures contracts traded in the Automobile sector of NIFTY50.

A. Trend Analysis

Graph-1 : Bajaj LTD (No. of Future Contracts)
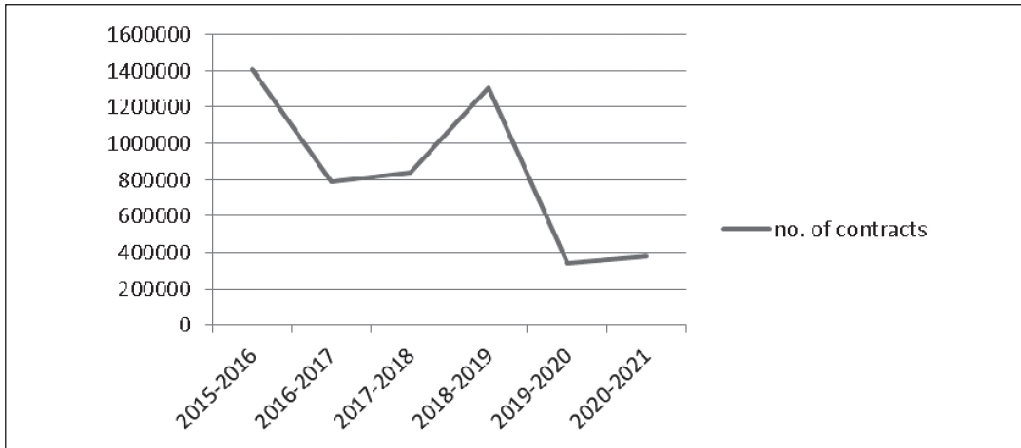
Source : NSE India.

From the above graph, it is very clear that futures trading of Bajaj LTD has seen a drastic decline from the year 2015-16 (12,21,890) to 2016-2017 (14,09,477), but later increased to 13,09,247 contracts up to 2018-19. Again, there was a sudden dip in future contracts 3,42,402 in the year 2019-20 and in the next year, contracts increased to 3,81,474.

Graph-2 : Mahindra & Mahindra (No. of Future Contracts)
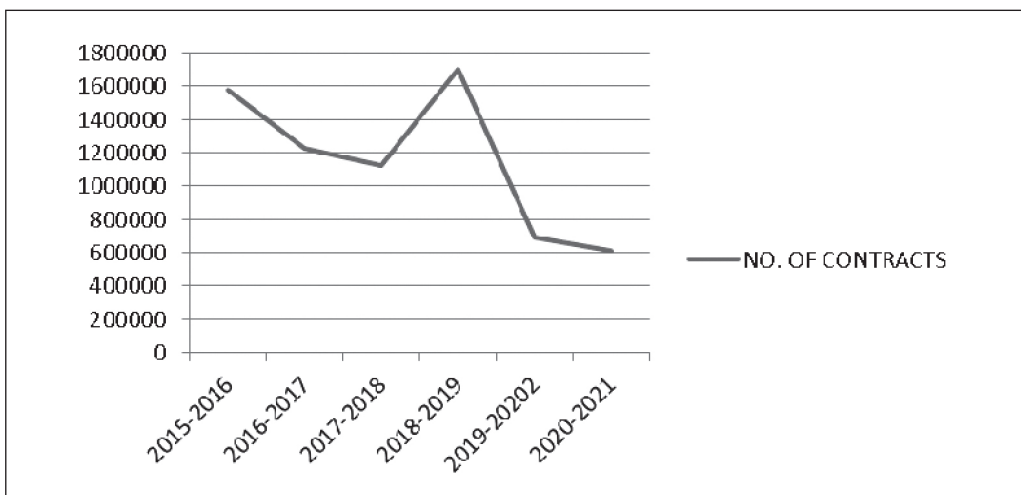
Source : NSE India.

The number of contracts of M&M were 14,80,392 in 2015-16. After that the volume of contracts decreased to 11,288,066 in the year 2017-18. The futures trading increased and reached its saturation point in 2018-19 (16,99,845) contracts and is on a decreasing trend till 2020-21.

Graph-3 : Eicher Motors (No. of Future Contracts)
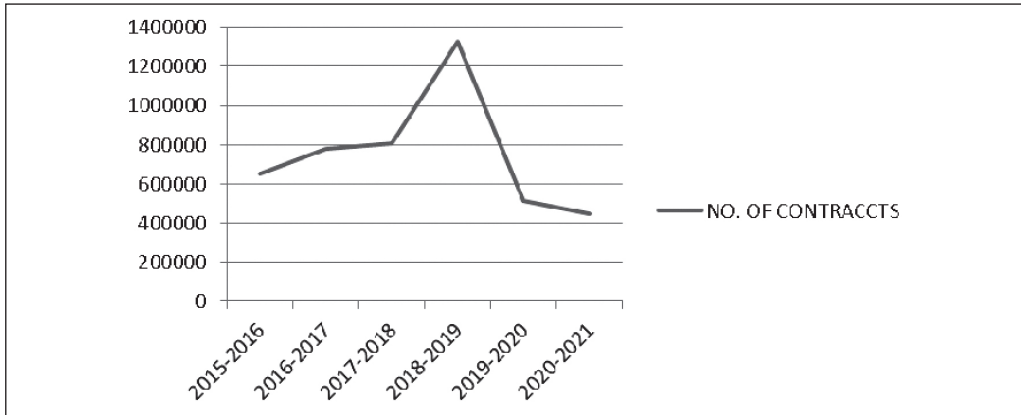
Source : NSE India.

Future contracts of Eicher Motors primarily showed an increasing trend. The number of future contracts was 6,52,742 in the year 2015-16 and increased to 13,28,422 contracts in 2018-19. Suddenly, the contracts reduced to 5,13,882 in 2019-20 and has since then declined till 2020-21.

Graph-4 : Tata Motors (No. of Future Contracts)
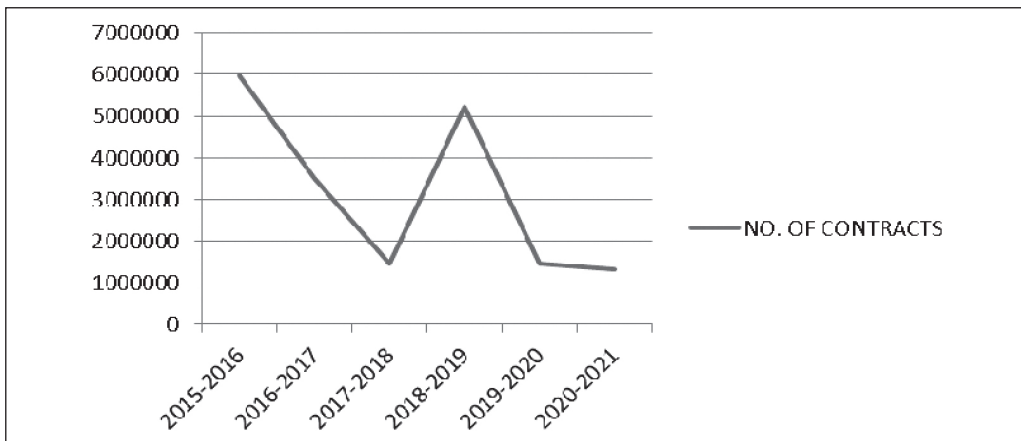
Source : NSE India.

The futures trading of Tata Motors was at its peak in the year 2015-16, declined up to 2017-18, and recovered by the year 2018-19. However, a decreasing trend is observed up to 2020-21.

Graph-5 : Hero Motocorp (No. of Future Contracts)
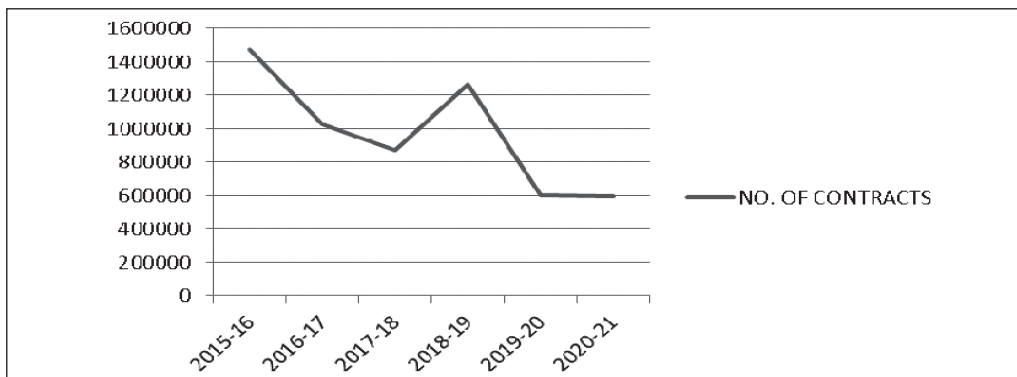
Source : NSE India.

Like Tata Motors, the number of future contracts of Hero Motocorp was at its peak in 2015-16 and there was a decline in contracts in the following two years. The year 2018-19 (12,63,573) has shown an increase in futures trading and in the next two years, the number of contracts declined to 6,04,745 and 5,97,675 respectively.

Graph-6 : Maruti (No. of Future Contracts)
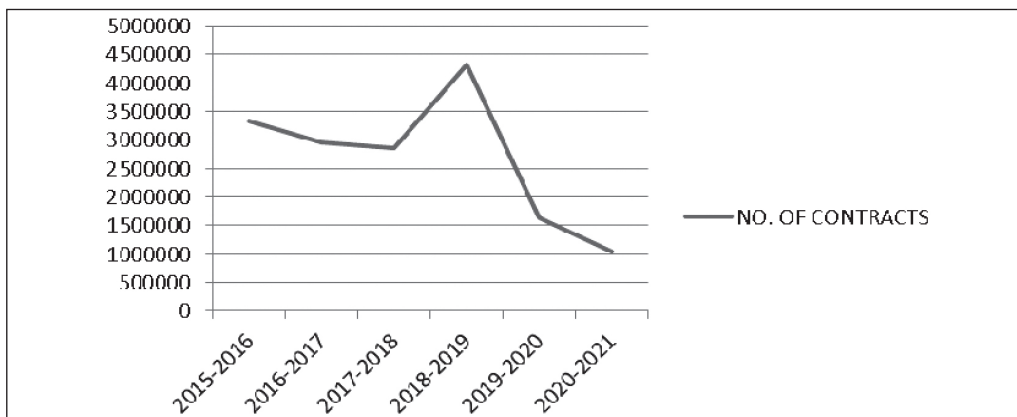
Source : NSE India.

The number of future contracts of Maruti Suzuki were decreasing from 2015-16 to 2017-18 and reached its peak in the year 2018-19 with future contracts of 43,25,079. Again, it has shown a decline in 2019-20 and 2020-21 with future contracts of 16,45,746 and 10,51,936 respectively.

B. Data Analysis

1. ADF Unit Root Test (Stationery Test) :

In order to make any time series analysis, it is important to make certain that the data is stationery. Stationarity refers to, at any point in time; the statistics of the data should be the same. This can be tested using various Stationarity testing techniques like Augmented-Dickey Fuller Test (ADF test), Phillips Perron test (PP test), KPSS test, etc. The most commonly used stationarity test is the ADF test, which is also used for the present study. All six companies (number of future contracts and stock prices) are tested for stationarity and were made stationery if not.

Null Hypothesis : Futures contracts has a unit root

Table-01 : ADF Test Findings (Future Contracts)

Company Name	Null Hypothesis H0:	Differencing level	Probability (LOS)*	Decision (Accept/Reject H0
BAJAJ AUTO	Data has a unit root (Non-stationery)	Original form	0.0000 (<0.05)	
		First difference		Rejected
HERO MOTOCORP	Data has a unit root (Non-stationery)	Original form	0.0000 (<0.05)	Rejected
		First difference		
EICHER MOTORS	Data has a unit root (Non-stationery)	Original form	0.0000 (<0.05)	Rejected
		First difference		
MAHINDRA & MAHINDRA	Data has a unit root (Non-stationery)	Original form	0.0000 (<0.05)	Rejected
		First difference		
TATA MOTORS	Data has a unit root (Non-stationery)	Original form	0.0000 (<0.05)	Rejected
		First difference		
MARUTI SUZUKI	Data has a unit root (Non-stationery)	Original form	0.0000 (<0.05)	Rejected
		First difference		

 Note: ' * ' = Level of significance

Result

H_0 = Futures contracts is not stationary

H_1 = Futures contracts is stationary

Result : 'P' <0.05. Therefore, H_0 is rejected and H_1 is accepted.

Null Hypothesis: Closing price has a unit root

Table-02 : ADF Test Findings (Closing Stock Prices)

Company Name	Null Hypothesis H0:	Differencing level	Probability (LOS)*	Decision (Accept/Reject H0
BAJAJ AUTO	Data has a unit root (Non-stationery)	Original form	0.0516 (>0.05)	Accepted
		First difference	0.0000 (<0.05)	Rejected
HERO MOTOCORP	Data has a unit root (Non-stationery)	Original form	o.5136 (>0.05)	Accepted
		First difference	0.0000 (<0.05)	Rejected
EICHER MOTORS	Data has a unit root (Non-stationery)	Original form	0.3814 (>0.05)	Accepted
		First difference	0.0000 (<0.05)	Rejected
MAHINDRA & MAHINDRA	Data has a unit root (Non-stationery)	Original form	0.2618 (>0.05)	Accepted
		First difference	0.0000 (<0.05)	Rejected
TATA MOTORS	Data has a unit root (Non-stationery)	Original form	0.7308 (>0.05)	Accepted
		First difference	0.0000 (<0.05)	Rejected
MARUTI SUZUKI	Data has a unit root (Non-stationery)	Original form	0.6017 (>0.05)	Accepted
		First difference	0.0000 (<0.05)	Rejected

Note: ' * ' = Level Of Significance

Result

H_0 = Closing price is not stationary

H_1 = Closing price is stationary

Result : 'P' <0.05. Therefore, H_0 is rejected and H_1 is accepted.

2. Granger-Causality Test :

To understand whether the volume of futures trading has an effect on the stock price of individual stocks, the Granger causality test was performed on the variables. The results were tabulated and interpreted below.

1. **Granger-Causality test between the number of future contracts and stock prices of Bajaj Auto**

Table-03 : Granger-Causality between the Number of Future Contracts and Stock Prices

Pairwise Granger Causality Tests			
Date: 12/12/2021 Time: 14:31			
Sample: 4/01/2015 3/31/2021			
Lags: 1			
Null Hypothesis :	Obs	F-Statistic	Prob.
BAJAJ_OPEN_CLOSE_ does not Granger Cause BAJAJ_NO_OF_CONTRACTS	988	4.37445	0.0367
BAJAJ_NO_OF_CONTRACTS does not Granger Cause BAJAJ_OPEN_CLOSE_		1.32374	0.2502

The Granger causality test between futures trading and stock prices in table 03 presents a unidirectional causality with a probability value of 25.02% which is more than 5% meaning we fail to reject (accept) the null hypothesis and it can be concluded that there is no cause and effect relationship between futures trading and stock prices in 2018. However, the stock price has an effect in causing the volume of futures contracts, which is evident from its respective probability value of 0.0367, which is less than 0.05 critical level, which means the null hypothesis is rejected.

2.   Granger-Causality test between the number of future contracts and stock prices of Hero Motocorp

Table-04 : Granger-Causality between the Number of Future Contracts and Stock Prices

Pairwise Granger Causality Tests			
Date: 12/12/21 Time: 14:41			
Sample : 4/01/2015 3/31/2021			
Lags: 1			
Null Hypothesis :	Obs	F-Statistic	Prob.
HERO_NO_OF_CONTRACTS does not Granger Cause HERO_OPEN_CLOSE_	988	21.0210	5.E-06
HERO_OPEN_CLOSE_ does not Granger Cause HERO_NO_OF_CONTRACTS	0.39414	0.5303	

Table 04 presents the Granger causality test between futures contracts and stock prices revealing a probability value of 5.E-06 lying within the confidence limit of 95%. Thereby, rejecting the null hypothesis H0: Closing prices do not Granger cause the number of futures contracts and conclude that the movements in the stock prices cause the effect on the futures trading.

3.   Granger-Causality test between the number of future contracts and stock prices of Eicher Motors

Table-05 : Granger-Causality between the Number of Future Contracts and Stock Prices

Pairwise Granger Causality Tests			
Date: 12/12/21 Time: 14:35			
Sample: 4/01/2015 3/31/2021			
Lags			
Null Hypothesis :	Obs	F-Statistic	Prob.
EICHER_OPEN_CLOSE_ does not Granger Cause EICHER_NO_OF_CONTRACTS	988	0.70116	0.4026
EICHER_NO_OF_CONTRACTS does not Granger Cause EICHER_OPEN_CLOSE_		0.15229	0.6964

The Granger causality test between futures contracts and stock prices in table 05 revealed a probability value of 40.26% which is more than 5% meaning we fail to reject (accept) the null hypothesis and it can be concluded that there is no cause and effect relationship between futures contracts and stock prices.

4.   **Granger-Causality test between the number of future contracts and stock prices of Mahindra & Mahindra**

Table-06 : Granger-Causality between the Number of Future Contracts and Stock Prices

Pairwise Granger Causality Tests			
Date: 12/12/21 Time: 14:40			
Sample: 4/01/2015 3/31/2021			
Lags: 1			
Null Hypothesis :	Obs	F-Statistic	Prob.
MM_NO_OF_CONTRACTS does not Granger Cause MM_OPEN_CLOSE_	988	2.40946	0.1209
MM_OPEN_CLOSE_ does not Granger Cause MM_NO_OF_CONTRACTS		0.14543	0.7030

The Granger causality test between futures contracts and stock prices in table 06 revealed a probability value of 12.09% which is more than 5% meaning we fail to reject (accept) the null hypothesis and it can be concluded that there is no cause and effect relationship between futures contracts and stock prices.

5.   **Granger-Causality test between the number of future contracts and stock prices of Tata Motors**

Table-07 : Granger-Causality between the Number of Future Contracts and Stock Prices

Pairwise Granger Causality Tests			
Date: 12/12/21 Time: 14:43			
Sample: 4/01/2015 3/31/2021			
Lags: 1			
Null Hypothesis :	Obs	F-Statistic	Prob.
TATA NO_OF_CONTRACTS does not Granger Cause TATA_OPEN_CLOSE_	986	0.78737	0.3751
TATA_OPEN_CLOSE_ does not Granger Cause TATA NO_OF_CONTRACTS		7.72744	0.0055

The Granger causality test between futures trading and stock prices in table 07 presents a unidirectional causality with a probability value of 37.51% which is more than 5% meaning we fail to reject (accept) the null hypothesis and it can be concluded that there is no cause and effect relationship between futures trading and stock prices. However, the stock price has an effect in causing the volume of futures contracts, which is evident from its respective probability value of 0.0055, which is less than 0.05 critical level, which means the null hypothesis is rejected.

6.   Granger-Causality test between number of future contracts and stock prices of Maruti

Table-08 : Granger-Causality between the Number of Future Contracts and Stock Prices

Pairwise Granger Causality Tests			
Date: 12/12/21 Time: 14:39			
Sample: 4/01/2015 3/31/2021			
Lags: 1			
Null Hypothesis :	Obs	F-Statistic	Prob.
MARUTI_NO_OF_CONTRACTS does not Granger Cause MARUTI__OPEN_CLOSE_	988	0.77268	0.3796
MARUTI_OPEN_CLOSE_ does not Granger Cause MARUTI_NO_OF_CONTRACTS	0.02579	0.8725	

The Granger causality test between futures contracts and stock prices in the table revealed a probability value of 37.96% which is more than 5% meaning we fail to reject (accept) the null hypothesis and it can be concluded that there is no cause and effect relationship between futures contracts and stock prices.

Findings and Conclusions :

To find out the cause and effect relationship between stock futures trading and stock prices. The present study uses the Granger Causality test and the findings were tabulated :

Table-09 : Granger Causality Test Findings

Company Name	Null Hypothesis H0:	Probability (LOS)*	Decision (Accept/Reject H0)
BAJAJ AUTO	Closing price does not granger cause no. of contracts	0.0367 (<0.05)	Rejected
	No. of contracts does not granger cause closing price	0.2502 (>0.05)	Accepted
HERO MOTOCORP	Closing price does not granger cause no. of contracts	5.E-06 (<0.05)	Rejected
	No. of contracts does not granger cause closing price	0.5303 (>0.05)	Accepted
EICHER MOTORS	Closing price does not granger cause no. of contracts	0.4026 (>0.05)	Accepted
	No. of contracts does not granger cause closing price	0.6964 (>0.05)	Accepted
MAHINDRA & MAHINDRA	Closing price does not granger cause no. of contracts	0.1209 (>0.05)	Accepted
	No. of contracts does not granger cause closing price	0.7030 (>0.05)	Accepted
TATA MOTORS	Closing price does not granger cause no. of contracts	0.3751 (>0.05)	Accepted
	No. of contracts does not granger cause closing price	0.0055 (<0.05)	Rejected
MARUTI SUZUKI	Closing price does not granger cause no. of contracts	0.3796 (>0.05)	Accepted
	No. of contracts does not granger cause closing price	0.8725 (>0.05)	Accepted

Note: '*' = Level of Significance

From all the analysis and their respective findings that are presented in table 1 to table 09. It can be concluded that the data is made stationery for analysis. The findings of Granger causality test showed a unidirectional causality for Bajaj Auto, Hero Motocorp, Tata Motors, which means stock price have a notable effect on futures trading. Whereas, the findings of Granger Causality test for futures trading and stock prices for Eicher Motors, Mahindra & Mahindra, Maruti Motors revealed no causality between futures trading and stock prices meaning that neither futures trading causing an effect on the stock price nor stock price effecting volume of futures trading. So, there is no effect of futures trading on the stock prices.

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An Empirical Study Pertaining to the Adoption of Digital Channels amongst Bank Customer's during Covid-19.
(E-Banking ~ Banking Everywhere, Never at a Bank!)

NISHITH NAGAR, ESHIMA GHAI AND DEVENDRA KUMAR PANDEY

Abstract : Pandemic (Covid-19) severely affected the retail banking sector and brought about an everlasting affect in the digital need and behavior of the customer. In India (and in other countries too), the imposed lockdown enforced the banks to change their day-to-day operational strategy and focus more on hybrid mode rather than relying on the traditional banking with physical premises and thus making banking more convenient and accessible to bank customers. The pandemic forced the customers to adopt the electronic channels to conduct their day-to-day banking. Earlier bank customers were very reluctant to use and adopt e-banking. As is well known, the more people adopt electronic route to carry on their banking needs, the more they will feel and understand the ease it brings and going forward would abstain them to visit onshore branches. The challenges in front of the banks too were numerous i.e., migrating their daily banking operational activities to online banking, maintaining businesses, have a check on online fraudulent activities and most importantly, migrating bank customers across all age groups to adopt electronic banking channels. Banks can easily reach a wider range of customers by using channels like the ATM, Internet Banking, Mobile Banking, and E-Statements, among others. Additionally, customers can view their accounts, get account statements, transfer money, buy drafts, etc. on their smartphones without going to a branch. This research paper aims to shed light on the fact that banks have recently begun to take measures to control customers' transition to new banking methods, i.e., encouraging them to embrace digital channels, which will lead to greater customer satisfaction and long-lasting relationships, as well as profitability for banks.

Keywords : Covid-19, Digital Channels, Internet Banking, Mobile Banking, Pandemic, Retail Banking, Information Technology, Thrust.

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Introduction

Bank branches have fixed hours to carry on the banking activities, but people believe in flexible timings. With electronic banking, bank customers can bank as per their convenience and requirement, even if that's midnight and may carry out myriad of banking activities, like fund transfer, checking account balance and even downloading their e-statements*. Electronic banking is the process that allows a customer to conduct financial transactions online without physically visiting a bank (or "e-banking").* The term "convenient banking" refers to the ease of accessing and managing one's own bank account from any location and using any device. With pandemic reaching the *climax the usage of digital channels sky rocketed and there by raising the expectations of consumers who want swift and customized services.* Majority of account holders staying at home are embracing digital channels, to carry out most of their banking needs and requirements. With this, physical visits to bank branches and face-to-face interactions with front desk officers of the bank branches reduced manyfold. As the time progressed, particularly post March 2020, banks broadened their digital footprints across the banking arena and are on a mission to capitalize the use of latest and new technology as well as to re-dene user experience for all its bank customers. Pre-pandemic, the branches of the bank served its customers through the conventional route by establishing customer touch points at its branches. However, banks have now ensured to empower customers by enabling them to conduct banking activities through various technology enabled digital channels. Going forward, developing digital rostrum will also allow the bank to expand its outreach to the rural, unbanked regions of the country as well as supporting nancial inclusion. Needless to say, technology-enabled banking solutions are being looked upon by banks a key driver for effective communication with customers, as a benchmark to enhance customer satisfaction as well as to address customer queries and act as customer support agent.

Aim of the Study

✓ To study the banks' thrust and encouragement towards the adoption of e-banking channels during Covid-19 pandemic.

Setting Hypothesis

✓ (H₁) Foreign banks and Indian origin private sector banks gave more thrust and encouragement towards the adoption of e-banking than public sector banks during Covid-19 pandemic.

✓ $(H_1)_0$. *Foreign banks and private sector banks gave lesser thrust and encouragement towards the adoption of e-banking than public sector banks* during Covid-19 pandemic.

Review of Literature

Human Tellers : Who Need Them? by Marr, N., and Prendergast, G. (1991). The main reasons why consumers adopt technology are the hours, speed, and convenient locations. They discovered that non-usage was primarily caused by a preference for interpersonal interaction and a love of in-person banking visits.

According to Centeno (2004), the primary factors driving consumers to use internet banking are speed, the ease of remote access, availability 7 days a week, and financial incentives.

The future difficulties of technology in banking are covered by Nair, K.N.C. (2006) in "Information Technology and Indian Banking." The author emphasizes how information technology has a promising future in the banking industry. A successful bank must be quick to adapt to changing market conditions and ineffective risk management. The Indian banking industry will need to innovate in order to reach new heights.

In his essay on "Modern banking technology," Shroff, F.T. (2007) provides an overview of how Indian banking has changed over the past year. The paper discusses a few problems that these systems encounter. According to the author, a paradigm shift in Indian banking is about to occur. The Indian banking system will undoubtedly change as a result of the application of technology and product innovations.

Tugnait, S. *et al.* (2010), Accenture, in their report published on "Complex Imperatives: The Indian Banking Customer Experience", concluded in their report that customer satisfaction is a function of expectation. Customers' preference traditional channels is driven by customer perceptions of accessibility and quality of service.

In their CII Banking Tech Summit Report on "Carving a new path through innovation," Nair, N.K. et al. (2012), Price water house Coopers LLP (PWC) emphasized that banks are now concentrating more on their service offerings to suit customer preferences. Through a variety of channels, including ATMs, internet banking, kiosks, and mobile banking, banks can now offer a wider range of services. Banks are now recognizing the role of technology as a strategic driver

and not just as a purely support function thanks to ongoing advancements in banking technology. More than 75% of the banks that responded to the survey concurred that technology plays a strategic role in their organizations and aids in providing customers with better services.

In their CII Banking Tech Summit Report on "Carving a new path through innovation," A. Sanghavi et al. (2012), Price water house Coopers LLP (PWC), highlighted the importance of E-banking channels and claimed that customers now expect to move across different channels at any time and from any location. In particular, internet banking, mobile banking, and ATM penetration have all significantly increased. In order to cater to customer preferences, banks are now concentrating on their service offerings. Technology is no longer seen as a support function, but as a strategic tool for the organization's expansion.

Research Methodology

The study pertains to Indian Banking sector. Hence, the universe of the study is banking sector of India.

Selection of Banks

Purposive sampling is followed for this particular research paper as the study is confined to Banking Sector in India.

S. No.	A-1 (Public Sector Banks)	A-2 (Old & New Private Sector Banks)	A-3 (Foreign Banks)
1.	State Bank of India (SBI)	Axis Bank	Standard Chartered Bank (SCB)
2.	Union Bank of India (UBI)	Housing Development Finance Corporation (HDFC)	The Hong Kong and Shanghai Banking Corporation (HSBC)

Selection of Bank Customers

Only retail banking customers have been considered in this present work. Banks include, State Bank of India (SBI) and Union Bank of India (UBI) and two private sector banks, namely, Axis Bank Ltd. and HDFC Bank Ltd. and two foreign banks viz. Standard Chartered Bank and HSBC Bank.

Collection of Data

The data was collected through questionnaire framed for the purpose. Bank customers were randomly chosen (simple random sampling method) from the four prominent cities of Uttar Pradesh (i.e., Allahabad, Varanasi, Lucknow and Kanpur).

Final Usable Sample Size

Around 510 questionnaires were distributed and 322 were received back. The response rate was 63.13%. The filled in questionnaires were further scrutinized and only 308 were found valid and complete for further analysis. Hence, the sample size used for study and analysis in this research paper is 308.

Analysis of Data

Bank Customers : Demographic Profile

(A) Gender

Gender	Frequency (N=308)	Percentage (100%)
Male	212	68.8%
Female	96	31.2%

From Table (A) it is found that among the 308 customers, 212 (68.8%) are males and 96(31.2%) are females *signifying that males are accessing more technology enabled banking services than females.*

(B) Age

Age	Frequency (N=308)	Percentage (100%)
18-32	162	52.6%
33-49	104	33.8%
50-64	38	12.3%
65 & above	4	1.3%

As far as age-wise split of the sampled respondents concerned, it was found from the table (B) above, that 52.6% fall in the category (18-32) and 33.8 % were

between (33-49) age group. Only 12.3% of the respondents were in the (50-64) group and 1.3% of the respondents were between 65 and above age group. This when compared with other similar studied done by Forrester (2008) on adoption of e-statements in United States and Canada, Sudeep S. (2007) on internet banking in India and Riquelme and Rios (2010) on mobile banking in Singapore, it was found that electronic banking adoption amongst the youngsters was high. *To sum up, the present research paper highlights the fact that age has direct impact on the usage of e-banking and as evident from the results, the typical e-channel user is (18-32) age group.*

(C) Educational Qualification

Educational Qualification	Frequency (N=308)	Percentage (100%)
Below Matriculation	0	0%
Matriculation & Senior Secondary (Middle School)	0	0%
Graduation	136	44.2%
Post Graduation & Above	172	55.8%

In terms of educational qualification, 136 (44.2%) of the bank customers using the electronic banking were graduates and 172 (55.8%) of the respondents were post graduates and above (see table C). *The difference is not much significant and can be interpreted that educated persons have widely adopted the electronic banking channels.*

Your "Most Preferred Bank" Gave More Thrust & Encouraged you to Adopt E-banking Channels During the Pandemic

Five-pointer Likert scale was used to measure this factor. Extreme point(s) 5 taken as 'strongly agree' and 1 taken as 'strongly disagree'. From table (I) it is very much clear that 154 (50%) of the total respondents surveyed, 'strongly agree' that their most preferred bank encourages them to avail electronic banking channels to conduct banking transactions. 47 (15.3%) of the participants 'agree' that their bank do pressurize them to adopt technology enabled banking channels. 25 (8.1%) of the respondents have a neutral opinion on this. 34 (11%) of the bank customers 'disagree' that their banks force them to adopt e-channels and 48 (15.6%) of the respondents 'strongly disagree' that their banks didn't

Table (I) : Showing the Participants Responses Whether their "Most Preferred Bank" gave Thrust and Encouraged them to Adopt E-Banking during pandemic

Scale	Frequency (N=308)	Percentage (100%)
Strongly Disagree	48	15.6%
Disagree	34	11.0%
Neutral	25	8.1%
Agree	47	15.3%
Strongly Agree	154	50.0%

Source : Primary Data.

push nor encouraged them much to adopt e-banking channels for carrying out the banking activities electronically.

Testing of Hypothesis

H1 : Hypothesis testing of H1

(H_1) Foreign banks and private sector banks gave more thrust and encouragement towards the adoption of e-banking than public sector banks during Covid-19 pandemic. The corresponding null hypothesis (**H1)₀** states that *"Foreign banks and private sector banks gave lesser thrust and encouragement towards the adoption of e-banking than public sector banks during Covid-19 pandemic"*.

Table (1.a) : Showing Comparison of Thrust and Encouragement to Adopt E-Banking Among the Respondents Across Bank Groups.

Bank Groups	N	Mean	Std. Deviation
Public Sector Bank	105	2.6476	1.51265
Private Sector Bank	130	4.1846	1.29270
Foreign Bank	73	4.4795	1.05554
Total	308	3.7305	1.53635

Source : Primary Data.

From the table (1.a) above it is found that the foreign banks (4.4795) focus more and encourages its customers to adopt electronic banking followed by private

sector banks (4.1846) and public sector banks (2.6476). The results highlight the fact that foreign banks and private sector banks to the lead and were the pioneers in launching electronic banking amongst their customers; therefore focus, thrust and encouragement to adopt the electronic banking are bound to be high among the bank customers of these two banks respectively. *Analysis of variance was carried out to see whether the differences between the thrust and encouragement to adopt e-banking across different bank category are statistically significant at 95% confidence level.*

Table (1.b) : Analysis of Variance Among Different Bank Groups for Thrust & Encouragement

Thrust & Encouragement	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	190.883	2	95.441	54.538	*.000**
Within Groups	533.750	305	1.750		
Total	724.633	307			

(* The mean difference is significant at the .05 level)
Source : Primary Data.

Table (1.c) : Test of Homogeneity of Variances

Thrust & Encouragement

Levene Statistic	df1	df2	Sig.
12.919	2	305	*.000*

(* The mean difference is significant at the .05 level, implying variances are equal)
Source : Primary Data.

From the table (1.b) and (1.c) it is seen that variation in thrust and encouragement to adopt e-banking among the bank customers across bank groups is statistically significant at 95% confidence level since the p-value is less than 0.05. *Hence the researcher rejects the null hypothesis and accepts the alternate hypothesis. Hence the interpretation is that the foreign banks and private sector banks ensure, insist and encourage that their account holders should avoid branch banking and avail banking services through technology enabled electronic channels during pandemic. Thus, from the study it may be concluded that the foreign banks and private sector banks give more thrust and encourage their customers to adopt electronic banking than public sector banks during Covid-19 pandemic.*

Figure (2) : Means Plot Showing Mean Values Across Bank Groups
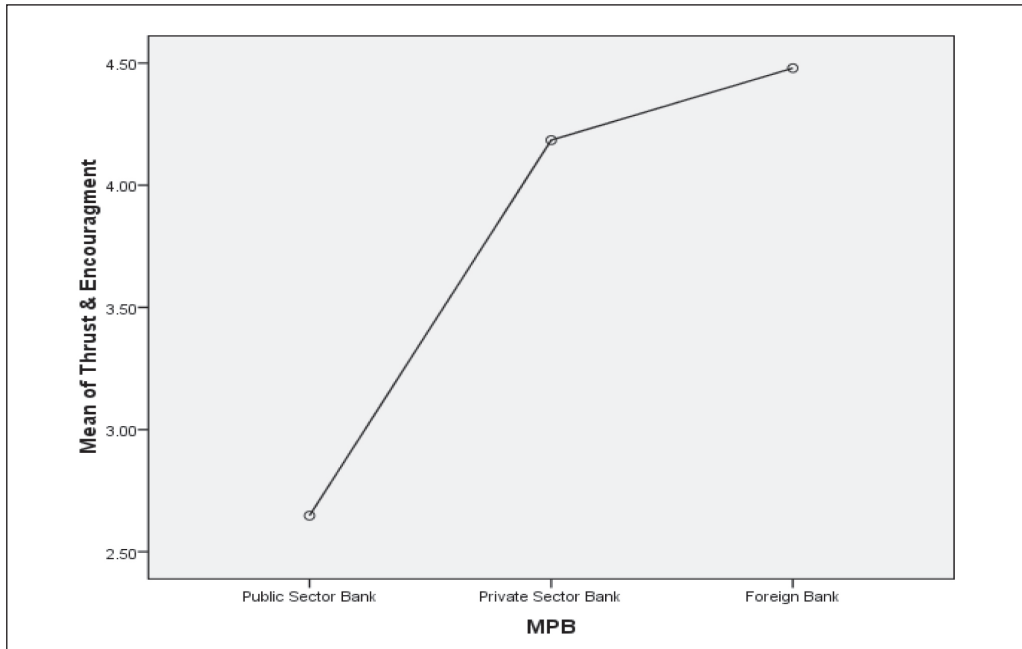
Source : Primary Data.

MPB in graph above represents the "Most Preferred Bank"

➢ **Public Sector Bank: Mean value is 2.6476**

➢ **Private Sector Bank: Mean value is 4.1846**

➢ **Foreign Bank: Mean value is 4.4795**

Factors that Encouraged & Accelerated this Massive Shift to Elctronic Banking.

Covid-19 (pandemic) acted as a stimulant for this very transformation. Factors that facilitated the pace of adoption of e-banking channels include the following:

● *Transformation in Banking :* The shifting of gears from traditional banking services to automated banking must for total customer engagement and control, better profitability from banks point of view. It redefined banking completely. The transformation brought a revolution and customers showed lesser interest in visiting bank branches to carry out their day-to-day banking

activities. Customers conduct business using a variety of secure digital channels. Due to the bank's attention to data security, frauds, and other regulatory issues, bank branches are less crowded.

● *Willingness to adopt :* Information Technology boom brought about an incredible change in the banking arena across the globe in the last 10 years. Internet connectivity and mobile access reach the remotest corners. Subsequently, banks started offering 24*7 services to the account holders with the help of information technology. E-banking channels like an ATM, Mobile Banking, Internet Banking etc. saw the light of the day. *Anytime anywhere banking was no longer a dream*.

● *Consumer's comfort :* Consumers are showing trust in e-banking channels. Safe, quick and convenient access facilitated the adoption amongst the masses with more positive interest and has pushed the shift to digital banking with more enthusiasm among the bank customers. Needless to say, in the near future, the banks would definitely be dealing with an intensifying pace of transformation in the digital market.

● *Digital Revolution :* The global Covid-19 pandemic has accelerated the pace of digitalization in Indian banking sector. Banks and other financial institutions have adopted online platforms at fast pace to ensure speedy services to banking customers, improving overall operational efficiency and at the same time streamlining the customer services offered by them.

● *Fear of Missing Out (FOMO) :* Banks have started reading the attitudes as well as the expectations of Millennials who are more technology savvy. Since these generations are more tech giants and have high appetite for digital banking, banks know very well the importance of FOMO, hence keep on changing their banking strategies to capture this very important demographic. Progress in technology front is enabling banks to expand their banking services as well as to meet the day-to-day new requirements of their account holders. Off late, customers are turning very fast to adopt fintech applications and look forward for speed, accessibility, flexibility and simplicity at reasonable banking costs.

● *Covid-19 accelerated growth :* The pandemic forced the banks to encourage their customers to adopt and use e-channels. Social distancing, enforced lockdowns, fear of being infected with Covid etc., were some of the main reasons that hastened the adoption of TEBS and prompted the customers to switch to online banking.

Reasons Why Banks are Taking the Digital Route

The future is digital for sure and BFSI sector is no exception to that. Pandemic and unexpected lockdown played a prominent role and led to a massive spike in adoption of e-channels amongst the masses. Let us check what urged the banks to take the digital route.

- *Covid 19 Pandemic :* The Covid pandemic accelerated the growth and adoption of electronic banking channels. Customers became more and more aware of the importance as well as about the usage of digital banking and its benefits.

- *Banking demography :* Digital platforms helped the banks to connect at large as well as to reach out to the newer and more tech-savvy generations and millennials who want technology enabled banking services. The generation today is greatly inclined towards e-banking and is embracing technology with open arms and at fast pace. Banks have to be on toes to fulfill the ever-increasing demands of this segment.

- *Competition from peer banks and other fintech players :* As they say, "early bird catches the worm". Private and foreign sector banks were quick to respond and latch on to provide better customer services. Public sector banks were definitely laggards when it comes to implementation of e-banking. Off late, not only banks but other fintech players realized best customer service is the the key to success and the only way to grow business many folds.

- *Usage of electronic gadgets :* With launch of smartphones, tablets etc., banking on the move saw the light of the day. The gigantic usage of the internet services as well as electronic gadgets have captured the attention the banks to foster e-banking and make the same convenient for end users.

Major Findings, Suggestions and Conclusion

Present Research Work Reveals the Important and Interesting Facts:

- The research paper sheds light on the fact that, ATM, a mini bank branch, would definitely avoid loss of precious time due to a long wait in line for simple transactions say withdrawal of cash or making deposits. Technology enabled banking channels have made banking accessible anywhere and at any point of time, ***thus empowering the customers to make the best and maximum use of e-channels.***

- *Customers in the age bracket 50 to 64 and above 64 found it quite difficult to access electronic banking* due to their limited technical knowledge, lack of trust and fear of losing cash due to fraud etc. In order to make their transition to online banking easier, some banks even set up the help desk at bank branches and even provided online as well as telephonic help to those customers who faced difficulty and struggled with accessing online banking channels.

- *The research paper highlighted that the intensity for thrust and encouragement to bank customers to adopt electronic banking channels was found to be less in case of public sector banks* in comparison to private sector and foreign banks that encourage their respective customers to avail the technology-enabled banking services. This shows that this is an area of improvement for the public sector banks.

- With pandemic refusing to wave down, bank customers/account holders were forced to adopt e-banking. These changes led to the sudden surge in adoption of e-banking channels and interaction of bank customers with the respective bank branches through multiple touch points. *So, once the trend of visiting brick and mortar branches to carry out their routine banking needs, subdued with customer's increasingly opting to engage with banks and other financial institutions through various e-banking channels.*

- Covid 19 acted as a catalyst. Pandemic and lockdown have led to the wide scale adoption and increased usage of e channels and digital payments platforms. *Cash usage diminished very fast*.

- The Covid 19 crisis has made consumers of all generations even more confident in using digital channels and *many shall not be returning to the bank branches for sure.*

Suggestions

- It is suggested that the banks must encourage and motivate the customers of higher age group, so they may switch to e-banking. *Banks should arrange seminars to educate the bank customers how e-banking is safe and time saving. Every banking activity may be conducted through a click of the mouse.*

- The main bottleneck in the smooth adoption of e-channels is the lack of education and awareness. Fear of online fraud, cybercrime etc. is the reason.

Thus, banks must assure their customers about security and privacy. ***This indeed will give a lot of confidence to them to adopt e-banking services.***

● It is also suggested that the reward points concept can play an important role in the adoption of e-banking channels. Bank may offer attractive incentives and this shall definitely increase customers participation. ***Such incentives may be in the form of cash back, reduced service charges, reward points etc.***

● Back-end staffs working as front desk officers should be trained and empowered beforehand. It is to be ensured that they are properly trained about the banking products and its offerings so they can confidently pitch and promote the same in front of bank customers.

Conclusion

"The digital revolution has transformed the way how banking sector interacts and cater to the needs of the customers".

Sharpness, swiftness and nimbleness has increasingly become an important aspect in the banking sector and banks are now adopting agile approaches. Embracing this revolution has enabled them to compete well among the peer groups and going forward accelerated their go to market strategies as well as boosted the customer experience. Banks have focused well on adapting digital platforms that facilitates not only operational efficiency but also streamlines customer services due to user friendly interface.

As is well known that digital banking has gained quick traction across the globe in recent years. To keep the momentum going, banks must up the ante in the banking domain and keep improving their digital services. Customers behavior and needs changes as the time progresses. They expect add on features to their digital products seamlessness as they move forward.

For a country as vast as India, where the customer is treated as a king as he has options galore, digital revolution will give rise to competition amongst the banks to provide the best of services with maximum satisfaction to end users for sure. With RBI together with Government of India acting as a watchdog, their simultaneous efforts in digital arena shall focus on new areas of customer inclusion.

The banks would be able to develop new and updated enhancements and features through their digital banking apps and further implement them in a quick and secure manner if the digital competition were to pick up. *Retail banks that are able to reinvent themselves as effective digital businesses and take advantage of accelerating digital trends will be able to play a significant role in the digital world of the future.*

The apex bank Reserve Bank of India, together with Government of India, has stood strongly in support of digital transactions. Unified Payment Interface and BHIM not only carved a niche for themselves in India, but in the year 2023, *In order to facilitate frictionless cross-border transactions between the two nations, India's UPI partnered with Singapore's PAYNOW.* Residents of both countries would be able to send cross-border remittances more quickly and affordably if these two payment systems were integrated. At the launch event, the Honorable Prime Minister of India said, "The linking of fintech services between India and Singapore will take the technology to a new level" (www.businessinsiders.in).

RBI has always emphasized that the benefits of UPI are not only confined within the boundaries of India, but other countries are too bound to benefit from the payment interface. Since India is moving in leaps and bounds towards digital revolution, rising number of ATMs in the country, implementation of e-payment systems such as NEFT, ECS, RTGS, Cards etc. on war footing has become a very common phenomenon with Indian Banks and they are definitely facilitating the dream of Cashless Economy.

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Application of Theory of Planned Behaviour towards Understanding Working Women Financial Planning Behaviour : A Structural Equation Modelling Approach

TARANJIT KAUR KAINTH AND PUNEET BHUSHAN

Abstract : *Personal financial planning is a process of ascertaining the capital required to achieve long-term financial goals. Financial planning is attributed to differences in skills, knowledge, attitude, approaches, as well as opportunities presented. This research study reviews the applicability of the components of the theory of planned behavior to understand women's preference for personal financial planning. The study applies a structural equation modeling approach. The goodness of fit is determined by the analysis of moments structure (AMOS) by applying the structural equation modeling (SEM) approach. The association among the three independent variables is analyzed by applying path analysis for hypothesis testing. The finding of the study reveals that the financial attitude, subjective norms, and perceived behavioral control have a strong association with financial planning intentions and financial planning behavior (action) among the working women in the education sector.*

1. Introduction:

Financial planning is a process of assessing the short-term and long-term financial goals of the individual arising at different stages of life based on the income, savings, and investments to achieve the financial goals (Sinha, 2008).

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The National Centre for Financial Education (NCFE) has described financial planning as a process of collecting relevant information, setting financial goals, analyzing the financial situations, developing, implementing, monitoring, and reviewing financial plans (NCFE, 2021). Financial planning is essential for the financial well-being of both men and women (Boon, et al., 2011); (Kainth & Bhushan, 2021). Proper and timely financial planning is important to achieve financial security throughout the life cycle and to build wealth (Mirashi, 2011). Various studies have established beyond any measure of doubt that women's participation in financial planning is very low (Chen & Volpe, 2002); (Lusardi & Mitchell, 2005); (Hung, et al., 2012). For a better understanding of women's financial planning behavior, the theory of planned behavior has been applied using the structural equation modeling approach.

1.1 Theory of planned behavior

The present study applies the theory of planned behavior to understand the association between the components of the theory of planned behavior; financial attitude, subjective norms, perceived behavior control towards financial planning intentions, and finally financial planning. Theory of Planned Behavior (TPB) (Ajzen, 1985) was given by Icek Ajzen in 1985 in his article "From intentions to actions: A theory of planned behavior. The theory was developed from the theory of reasoned action, which was proposed by Martin Fishbein together with Icek Ajzen in 1980 (Fishbein, 1980). The theory of planned behavior (TPB) and the theory of reasoned action (TRA) have better predictive performance and are supported by meta-analytical evidence. The degree of accuracy for overall behavioral variance is higher in TPB as compared to the TRA due to the additional constructs, the Perceived Behavior Control (PBC) it contains. It's illustrated that participation in personal financial planning is influenced by the insights into the Theory of Planned Behavior (TPB) that help in examining the light of attributes of attitude, subjective norms, and perceived behavioral control (PBC).

Attitude : Attitude refers to the degree to which the respondent has a favorable or unfavorable evaluation of the application toward financial planning (Cucinelli, et al., 2016). The construct was estimated by three items. The respondents were asked the following questions;

- I think financial planning is good.

- I think financial planning is safeguarded from future financial uncertainties.

- I am willing to do financial planning.

Figure-1 : Theory of Planned Behavior
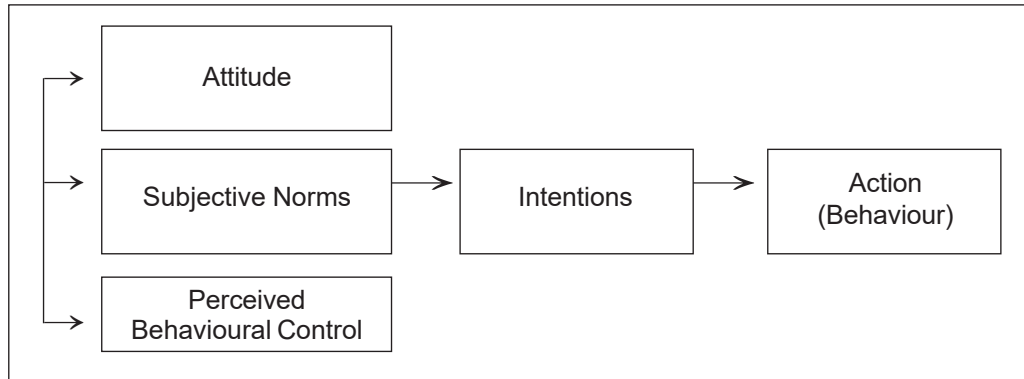
Subjective Norms : Subjective Norms refer to the belief about whether the people approve or disapprove of the behavior (Cucinelli, et al., 2016). It was measured by following three items.

➢ My family and relatives think that I should do financial planning.

➢ My close friends think that I should do financial planning.

➢ Most people think that I should do financial planning.

Perceived Behaviour Control : Perceived Behaviour Control refers to the respondents' perception of the ease or difficulty of participating in financial planning (Cucinelli, et al., 2016). The construct was estimated by the following items.

➢ I am confident that I should do financial planning.

➢ I have the capabilities and required skills to do financial planning.

➢ I have the resources, time, and willingness to do financial planning.

Intention : Intention is a dependent variable and was measured by the following items.

➢ I intend to do financial planning because it provides a safeguard from financial uncertainties

➢   I intend to invest in various financial instruments to get the benefit of higher returns

➢   I am willing to do estate planning as it provides peace of mind.

Action (Behaviour) : Action depicts the actual participation in financial planning. It is also a dependent variable and was measured using the following items.

➢   I set financial goals and objectives in my life.

➢   I gather relevant data and analyze my current financial position before I make a financial decision i.e. buy a house, car, vacation, etc.

➢   I execute my financial plan with the help of experts i.e. tax advisor, insurance advisor, mutual fund advisor, etc.

2. Literature Review :

Attitude is theorized as the evaluation – positive or negative – of a person acting a certain way; and the subjective norm is the societal stress on people to behave or not to behave in a certain manner. Perceived Behavioral Control (PBC) was included as the third predictor by Ajzen (1991) and it denotes the measure of control a person perceives to have over a certain behavior Ajzen (1991) & Fishbein & Ajzen (1975). Women generally have low confidence and are less inclined to learn about personal financial planning (Chen & Volpe, 2002) Women are less financially literate and less involved in retirement planning. Thus, there is a need to improve financial literacy levels among women (Lusardi & Mitchell, 2005). Financial knowledge and financial planning are closely related. Women who possess higher financial literacy are more likely to successfully plan their retirement (Lusardi & Mitchell, 2008). Women are to a great extent lacking when it comes to retirement planning and are less active in financial matters as compared to males. Workshops and seminars are required to improve money-related knowledge among women (Klatt, 2009. Women need to be more confident and educated to achieve financial independence (Malhotra & Witt, 2010) . Individuals who are more financially literate focus more on personal financial planning to avoid the adverse impact that poor personal financial planning might have on their life (Boon, et al., 2011) . Women are good at household money management but lacking in critical areas of financial planning and investments. Effective education programs and the development of high-level policies are the need of the hour (Hung, et al., 2012). Women are conservative while taking

financial decisions. There is a need to develop investment instruments that suit the risk-taking characteristics of women (Bhushan & Medury, 2013) . There is a need to improve the financial literacy level among people and the focus should be on developing a positive financial behavior and attitude towards investments (Bhushan & Medury, 2014). Basic financial knowledge is essential for every woman. Apart from this, its application needs to be understood as well as practiced by them. The government should empower women and women need to continuously try to improve their financial well-being for a better future (Mishra, 2015. Women are conservative and prefer traditional investment modes such as bank deposits, insurance, gold, and real estate and don't invest in derivatives, stocks, or mutual funds. There is a need to educate women about financial instruments so that they can trade off between risk and returns (T.S & S, 2015) . Women are dependent on their male family members for finance-related matters, which causes and further propagates less awareness among them. The active involvement of government, the private sector as well as employers, in the case of working women, in conducting financial literacy workshops can help spread awareness (Arora, 2016) . With the government initiatives toward financial inclusion and financial literacy, there is a need to acknowledge the importance of women's financial literacy separately (Baluja, 2016). Each TPB construct significantly contribute towards explaining the variance of the intentions of customers as well as consultants towards medium and high-risk financial product investments (Cucinelli, et al., 2016). There is a need for financial education and customized financial products for women (Saviano, et al., 2017). There exists a direct and positive relation between intention towards saving and final behavior and attitude, subjective norm, and perceived behavioral control. (Satsios & Hadjidakis, 2018). Behavior and financial attitude are very robustly related. Based on the Theory of Planned Behaviour (TPB), it is estimated that a person always assesses the consequences of certain behavior and it is ascertained by their attitude, which they have a perceived control (Yonga & etl., 2018). Attitude, perceived behavior, and control intention are influencers of investment decisions and the Theory of Planned Behaviour (TPB) is a suitable technique for ascertaining the behavior of investors in real estate (Ramasubbian & etl., 2018). As compared to financial knowledge, financial attitude and financial behavior have a strong association with the financial literacy of working women (Rai, et al., 2019).

3. Research Objectives:

➢ To understand the applicability of the Theory of Planned Behaviour (TBP) in predicting intentions and preferences towards financial planning participation by the working women in the education sector of Himachal Pradesh and Punjab.

➢ To analyze the association of financial attitude, subjective norms, and perceived behavioral control towards financial planning among the working women in the education sector of Himachal Pradesh and Punjab by applying a structural equation modelling approach.

4. Hypothesis :

A prediction from the theory is called a hypothesis (Field, et al., 2012). The purpose of hypothesis testing is to ascertain whether an observed difference in the sample is significant statistically or whether it can be adequately explained by chance alone (Lavrakas, 2008). The hypothesized model of the current study is explained further.

Figure-2 : Hypothesized Structural Measurement Model
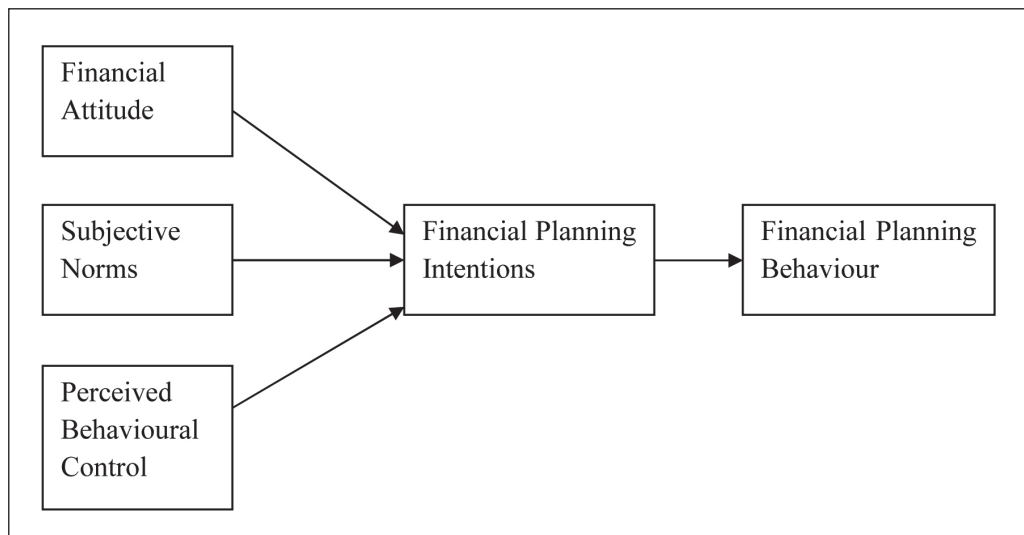
Source Adapted From : (Ajzen, 1985)

4.1 Hypotheses

➤ H1 : Attitude has a significant impact on the financial planning intention among working women.

➤ H2 : Subjective norms have a significant impact on the financial planning intention among working women.

➤ H3 : Perceived behavioral control has a significant impact on the financial planning intention among working women.

➤ H4 : Financial planning intentions have a significant impact on the financial planning behavior among the working women.

5. Research Methodology :

The present study is based on the data collected through a well-structured questionnaire from the working women in the education sector from Punjab and Himachal Pradesh. Preference towards financial planning is measured using 5 points Likert scale with 5 as strongly agree and 1 as strongly disagree. The study employed multistage sampling. In the first stage two districts, each from Himachal Pradesh and Punjab were selected based on the highest number of universities and colleges. In the second stage, 50 percent of universities and 50 percent of colleges from each district were selected randomly. In the third and final stage, the questionnaire was sent on a convenience sampling basis. A total of 473 responses from the working women were received and considered for the research study. The reliability and validity of the components/constructs of the theory of planned behavior, and confirmatory factor analysis (CFA) was estimated using the AMOS. Path analysis was used to measure the association of independent variables namely; financial attitude, subjective norms, and perceived behavioral control with dependent variable namely financial planning. The hypothesis has been formulated and tested at a 5% significance level and conclusions are then drawn.

6. Data Analysis and Results

6.1 Demographic Profile of the Respondents

Table-1 : Demographic Details of the Sample Respondents

Variable	Category	State					
		Punjab		Himachal Pradesh		Total	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Institution type	Public	55	21%	62	30%	117	25%
	Private	208	79%	148	70%	356	75%
	Total	263	100%	210	100%	473	100%
Teaching faculty	Commerce	40	15%	13	6%	53	11%
	Management	89	34%	35	17%	124	26%
	Economics	30	11%	88	42%	118	25%
	Others	104	40%	74	35%	178	38%
	Total	263	100%	210	100%	473	100%
Employment status	Contractual	103	39%	85	40%	188	40%
	Permanent	160	61%	125	60%	285	60%
	Total	263	100%	210	100%	473	100%
Age	Less than 20 years	1	0%	1	0%	2	0%
	Between 21 years to 30 years	131	50%	98	47%	229	48%
	Between 31 years to 40 years	104	40%	86	41%	190	40%
	More than 41 years	27	10%	25	12%	52	11%
	Total	263	100%	210	100%	473	100%
Educational qualification	Postgraduate	152	58%	96	46%	248	52%
	Doctorate	107	41%	104	50%	211	45%
	Others	4	2%	10	5%	14	3%
	Total	263	100%	210	100%	473	100%

Source: Primary Data

6.2 Summary of Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis is a type of structural equation modeling (SEM) that deals in measurement models (Brown, 2015). It facilitates hypothesis testing that there is a relationship between observed and unobserved/latent construct.

6.2.1 Analysis of Measurement of Validity

The measurement of validity in terms of reliability and construct validity was evaluated using Cranach's alpha, CR, AVE, and Square root of AVE. These are shown in Table-2 and Table-3. The Cranach's alpha value is above 0.70. Also, CR values are above 0.70 AVE values are above 0.50 as well as the square root of AVE is more than the inter-construct correlations.

Table-2 : Analysis of Measurement Reliability : Descriptive Statistics and Cranach's Alphas

Variables	Mean	Std. Deviation	Cronbach's alphas
Attitude (ATT)			
ATT1	3.579281184	1.165606116	
ATT2	3.572938689	1.108264041	
ATT3	3.342494715	1.139167716	0.884
Subjective Norms (SN)			
SN1	3.463002114	1.073173001	
SN2	3.496828753	1.055900735	
SN3	3.44397463	1.114964968	0.879
Perceived Behaviour Control (PBC)			
PBC1	2.968287526	1.054172815	
PBC2	3.236786469	1.156668136	
PBC3	3.006342495	1.297798799	0.786
Intentions (INT)			
INT1	3.498942918	1.274131036	
INT2	3.642706131	1.023678702	0.906
Behaviour (BEH)			
BEH1	3.255813953	1.177154094	
BEH2	3.380549683	1.312828697	
BEH3	2.858350951	1.251701819	0.773

Source: Primary Data

Table-3 : Analysis of Measurement Reliability : Descriptive Statistics, Composite Reliability, Convergent Validity, and Discriminant Validity

Variables	Composite Reliability	Convergent Validity	Discriminant Validity				
	CR	AVE	INT	ATT	SN	PBC	BEH
INT	0.919	0.850	**0.922**				
ATT	0.886	0.722	0.704	**0.850**			
SN	0.886	0.722	0.617	0.745	**0.850**		
PBC	0.790	0.557	0.406	0.424	0.309	**0.747**	
BEH	0.783	0.552	0.372	0.383	0.409	0.703	**0.743**
Recommended Values	>0.70	>0.50	Square root of AVE > inter-construct correlations				

Source Adapted From: (Stats Tools Package, 2021); Primary Data

As shown in above Table-3, the internal reliability of each construct is tested by Contac's Alpha values and are above the acceptable value 0.70 (Nunnally, 1978). Composite reliability, convergent validity, and discriminant validity scores are calculated using the online stats tool package. Composite reliability scores are also above acceptable of 0.70 so there are no reliability issues in the model. Convergent validity is calculated through AVE (Average Variance Extracted) and the values are more than 0.50 so there are no validity issues in the model and the model has achieved convergent validity. Discriminant validity is calculated through the square root of AVE (Diagonally), which is higher than the inter-construct correlation values (vertically). So Model has achieved Discriminant Validity. Overall there is no reliability and validity concern in the model and the model has achieved reliability and validity.

6.2.2 Measurement Model for Different Constructs

To validate the factors of five variables, the fitness of the model was defined as confirmatory factor analysis (CFA) (Ho, 2006). The model fitness was found to have adequate data. The results of CFA are shown below in Figure-3.

Table-3 shows the reliability and validity of the scale and goodness of fit. The output of the analysis of moment structures (AMOS) confirms that all the five variables have scored well for the goodness of fit after the modifications. To measure the good fit model indices such as; Chi-square/degree of freedom (CMIN/df), goodness-of-fit index (GFI), Adjusted goodness-of-fit index(AGFI), Tucker-Lewis index (TLI), Normalized fit index (NFI), Comparative fit index (CFI), and badness of fit indicator Root mean square error of approximation (RMSEA). The results show that all the indicators of the model fit fall within the permitted range and are consistent with the previous studies (Hu, et al., 1999;2015); (Shevlin, 1998); (Bentler, 1980); (Hooper, 2008); and (Steiger, 2007).

Figure-3 : Confirmatory Factor Analysis (CFA)
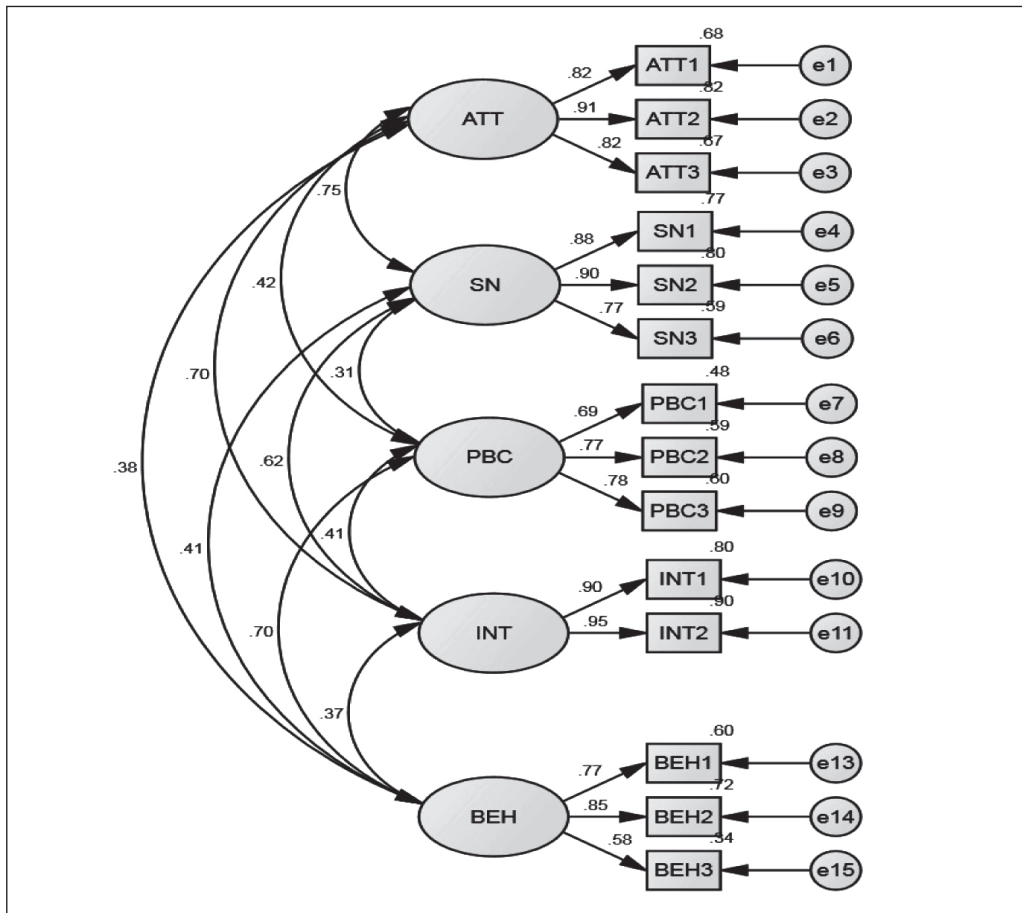
Source : Primary Data

6.2.3 Analysis of Overall Model Goodness-of-Fit Using Common Fit Indices/ Indexes

Table-4 : Analysis of Overall Model Goodness-of-fit Using Common Fit Indices

Model Goodness-of-Fit Indices	Recommended Value	Results obtained from the study
Chi-square/degree of freedom	≤ 3.0	3.133
Goodness-of-fit index (GFI)	≥ 0.90	0.936
Adjusted goodness-of-fit index (AGFI)	≥ 0.80	0.9
Tucker-Lewis index (TLI)	≥ 0.90	0.952
Normalized fit index (NFI)	≥ 0.90	0.949
Comparative fit index (CFI)	≥ 0.90	0.964
Root mean square error of approximation (RMSEA)	≤ 0.10	0.067

Source: Primary Data

As shown in the above Table-4, the goodness of fit between the data and the model is measured through chi-square statistics. Although the value of chi-square is higher than the recommended minimum level. However, it is close enough to suggest that the model is fit. Other indices such as GFI, NFI, CFI, and RMSEA meet the recommended minimum levels and are adequate to assess the results for the structural model.

6.3 Structural Model

The theory of planned behaviour proposed by Icek Ajzen and the previous research studies show a positive relationship among (Ajzen, 1985); (Ajzen, 1991); (Ajzen, 2011); (Ajzen, 2002) (Farrukh, et al., 2018); (Satsios & Hadjidakis, 2018). The researchers also tried to investigate the relationship between these variables and their association with financial behavior by applying structural equation modeling. The structural model is shown in figure 4. The relationship between three independent variables namely; attitude, subjective norms, and perceived behavior control is accomplished in AMOS and shown in table 5 below. The conditions of model fit indices are achieved and shown in table 4. The results

show that all the indicators of the model fit fall within the permitted range and are consistent with the previous studies ((Hu, et al., 1999;2015); (Shevlin, 1998); (Bentler, 1980); (Hooper, 2008); and (Steiger, 2007).

Figure-4 : Structural Model
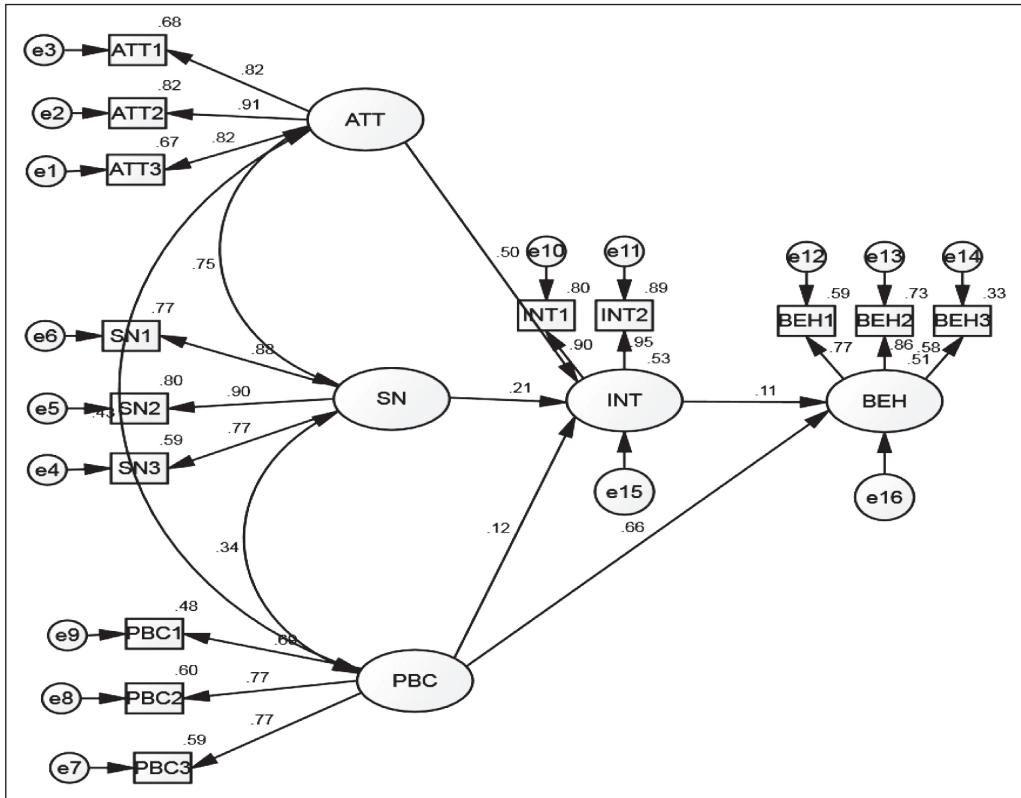
Source : Primary Data.

6.3.1 Path Analysis and Results

Path analysis was conducted to test the hypothesis. The results of the path analysis are shown below in Table-4. The regression weight and the critical ratio test signifies that attitude (***, p<0.05), subjective norms (0.001, p<0.05), and perceived behavior control (.008, p<0.05) significantly impact the financial planning intentions among working women. Financial planning intentions (.026, p<0.05) significantly impact the financial planning behavior among women. The results also show that perceived behavior control **(***,** p<0.05) significantly

impacts financial planning behavior among working women. There is a strong association among the independent variables; attitude, subjective norms, perceived behavior control, and dependent variables; financial planning intentions and financial planning behavior. Thus, hypotheses H1, H2, H3, and H4 are accepted.

6.3.2 Measurement Model Fit Summary

Table-5 : Model Goodness-of-Fit Indices

Model Goodness-of-Fit Indices	Recommended Value	Results obtained from the study
Chi-square/degree of freedom	≤ 3.0	3.279
Goodness-of-fit index (GFI)	≥ 0.90	0.931
Adjusted goodness-of-fit index (AGFI)		
Tucker-Lewis index (TLI)	≥ 0.90	0.952
Normalized fit index (NFI)	≥ 0.90	0.945
Comparative fit index (CFI)	≥ 0.90	0.961
Root mean square error of approximation (RMSEA)	≤ 0.10	0.069

Source: Primary Data

6.3.3 Results of Structure Model

Table-6 : Shows the Output of the Structural Model

			Estimate	S.E.	C.R.	P	Label
INT	<---	ATT	.614	.085	7.184	***	
INT	<---	SN	.274	.085	3.232	.001	
INT	<---	PBC	.137	.052	2.633	.008	
BEH	<---	INT	.087	.039	2.234	.026	
BEH	<---	PBC	.598	.059	10.058	***	

Source: Primary Data

As shown above, attitude (ATT), subjective norms (SN), and perceived behaviour control (PBC) have a significant association with financial planning intentions and financial planning behaviour among working women. Also perceived behaviour control directly affects the women's financial planning behaviour as well.

7. Discussion and Practical Implications

The main objective of this research study was to find out the application of the theory of planned behavior in understanding the working women's preference toward financial planning. The theory of planned behavior is a well-established theoretical framework (Ajzen, 1985)) and has been validated by many research studies in predicting human behavior in various fields. The results of the study show that attitude, subjective norms and perceived behavior control are highly associated with intentions and behavior. The results of the current study have been supported by previous studies (Cucinelli, et al., 2016); (Farrukh, et al., 2018); (Satsios & Hadjidakis, 2018). The studies also suggest that the theory of planned behavior is suitable for ascertaining the intentions toward financial investment and behavior (Satsios & Hadjidakis, 2018). (Yonga &etl., 2018); (Ramasubbian & etl., 2018); (Rai, et al., 2019). As per Ajzen (1985), the modified theory, called "a theory of planned behavior," differs from the theory of reasoned action, in that it takes into account perceived as well as actual control over the behavior under consideration. Perceived Behavioral Control (PBC) was included as the third predictor by Ajzen (1991) and it denotes the measure of control a person perceives to have over a certain behavior Ajzen (1991) & Fishbein & Ajzen (1975). The study shows that attitude, subjective norms, and perceived behavior significantly affect the women financial planning intentions to financial planning behavior. Also, there is a direct impact of perceived behavior control on women's financial behavior. As per Naidu (2017), for the achievement of financial objectives, financial skills, awareness, knowledge, attitude, and good demonstrated behavior are a must. Apart from attitude, awareness, intentions, and behavior, previous studies also stressed upon the demographic factors such as gender, age, income, education level, marital status, and family status affect women's financial planning participation (Hung, et al., 2012); (Malhotra & Witt, 2010); (Baluja, 2016). Current study has focused on understanding the impact of financial attitude, social groups , financial awareness, and availability of financial resources on financial planning behaviour. Evidences are also available that suggest financial literacy level significantly impact the financial planning. Finacial literacy level is very low among women and youngsters in India (Naidu, 2017). As per Lusardi & Mitchell (2005); Lusardi & Mitchell (2008); and Arora

(2016) , financial literacy and financial planning are closely related. Individuals with a high financial literacy are likely to successfully plan their retirement and other finacial goals. Attempts have been made in the previous studies to measure the finacial literacy level of the individuals (Hogarth, 2002); Lusardi & Mitchell (2008); (Hung, et al., 2012)and (Bhushan & Medury, 2014). Majority of the studies suggest that the financial literacy level of the women is low as compared to the men. As per Bhushan & Medury (2014), there is a need to improve the financial literacy level among people and the focus should be on developing a positive financial behavior and attitude towards investments. Although in the current study, women financial literacy is not been measured directly. However, women financial planning behaviour is measured by asking relevant questions based on the components of theory of planned behaviour that gives a better understanding of factors affecting women financial behaviour. As mentioned by Lusardi & Mitchell (2008); Hung, et al. (2012); Arora (, 2016); Cucinelli, et al., 2016 and Naidu (2017), women's confidence level, attitude, behaviour, required financial and investment skills and availability of sufficient financial resources facilitate financial planning behaviour. The current study has measured the awareness level of women towards financial products, availability of financial resources, financial planning skills. Thus, the current study provides an understanding of role of components of theory of planned behaviour in women financial planning behaviour using structural equation modeling approach. Also theory of planned behavior has high explanatory power in predicting working women's intentions of financial behavior.

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Work Life Balance Initiatives - A Leverage Analysis

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Abstract : *Work-life balance refers to the balance that an individual needs between time allocated for work and other activities, particularly those activities that bring satisfaction and enjoyment to one's life. In today's fast-paced and globalized world, it has become increasingly difficult for individuals to maintain a healthy balance between their professional and personal lives. This is due to the increasing demands of the modern workplace and the constant availability of technology, which has blurred the lines between work and leisure. Maintaining work life balance is important for both the employer and employee. Employee performance and satisfaction mostly depends on their work life balance. Work life balance has several positive aspects like, improved productivity, reduced turnover, less burnout and improved performance. Hence it is important from the employer point of view to create a healthy work life balance among their employees. This paper has made an attempt to study the work life balance initiatives offered by IT companies in Hyderabad. The study has covered 400 employees working in different IT companies based in Hyderabad. Leverage analysis is used to analyse the importance and satisfaction regarding various work life balance initiatives. The study found that "conducting games, sports, cultural, and family events" and "physical fitness programs" have high importance but low satisfaction among the respondents. This Importance – Satisfaction Analysis helps organizations to implement work life balance initiatives that are really necessary to have a better work life balance among the employees.*

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Introduction:

The term work life balance is a state where an employee is able to meet his personal and professional commitments. These days the term "Work life balance" has become a buzzword and is now valued by all professions. Work-life balance is a concept whose significance and definition solely depend on the individual.

Work-life balance can be defined as the situation in which a working individual experiences at ease juggling his personal life at home with his professional life at the office. A working person who maintains a healthy work-life balance can be productive at work and content in his personal life. It can be viewed as a situation where one can fulfil his professional obligations at the office and still have time for his personal interests and time with his family.

Every employee has to have a healthy work-life balance. An employee with a good work life balance will be able to give his full work both at office and at home. Organization expects their employees to be more committed and work oriented. At the same time the family members expect their presence and involvement in family matters. A worker is said to have work-life balance when he can please both his employer and his family. Better work-life balance benefits both the individual and the employer. It improves employee commitment, improves the performance and improves the quality and productivity. It brings happiness and joy in employee life. He will be spending time with family and friends. He can have time for his personal interests. Work life imbalance can cause stress, absences, health concerns, and family-related problems. Hence it is crucial for every employee to maintain a healthy work life balance. Work life balance is a joint responsibility of both the employer and employee. Employers take several measures to promote the work life balance of their employees at the same time employees also take self-care methods to improve their work life balance. Every company makes efforts to support their staff in striking a satisfying work-life balance. Organizations can offer a variety of initiatives to help employees balance work and life. Some of these include flexible work schedules, transportation services, physical fitness programs, mental health counselling, etc. Companies must make an effort to understand their employees' requirements so they can tailor work-life balance initiatives to them. In this paper it is intended to study the work life balance initiatives of the select IT Companies.

Review of Literature:

Job autonomy has a positive impact on work-life balance, the study also discovered that self-efficacy levels were associated with stronger Work to Family

enrichment (Badri & Panatik, 2020). Organizational work life balance practices have a positive impact on employee performance. It is not just beneficial for the employee; it is also beneficial for the employee's family, organization and beneficial to society as well (Ioan Lazar et al., 2020). Age and marital factors have significant impact on the Work Life Balance. This study also concluded that IT professionals need family support and Management initiatives like Better Work Environment, Transport facilities etc., for effectives Work life balance M.Ramasatyanarayana (2020). Importance Performance Analysis (IPA) to know whether the prioritizations of the news readers are satisfied or not, found two service attributes that needed to be focused as they were treated as important but under performed by the website (Chindi Seftylia et. al. 2022). IPA model is very useful and helpful in the managerial decision making process. They opined that the IPA method must be a simple assessment tool to evaluate customer satisfaction and quality of service. It is not easy to say which method is superior over other methods (Semso Ormanovic et. al. (2017). Hartono Mulyo Raharjo et. al. (2017) have tried to provide possible solutions to fix the problem of large number of complaints related to airport. They have used Importance and Performance Analysis (IPA) and Potential Gain in Customer Value (PGCV) methods to solve the issue. They found that all attributes being asked have positive gap value, which means that all services provided do not meet the customers' expectations.

Women are the ones who need to take care of household things, they are facing more work-life balance issues, which leads to stress and pressure. They also found that the majority of the women in the IT industry prefer flexible working hours. Work from Home is the best option to maintain a healthy work life balance (Monika Garg et al. 2017). There are three factors that have influence on work life balance of the employees. They are Global Competition, Family & Personal values and Age (D. Babin Das 2015). Even today the women are not treated on par with men. Still they are the ones who take care of the family. Organizations are facing challenges to develop and implement work life balance policies. They concluded their study by saying that work life balance primarily depends on the individual personality (Pallavi Mehta et al. (2015). It depends on the ability of the person to manage the balance between and Personal life and Professional Life. Time management + Stress management is Work life balance. They concluded their study by saying that if the employer and employee make work life balance strategies together will promote work life balance (M. Muthukumar et al. 2014))

Work-life balance does not imply equal distribution of each. Their study found that work life balance initiatives have an impact on employee commitment, satisfaction, turnover, absenteeism etc., They have found 6 parameters to evaluate the work life balance programs. They are Training, Communication of Work life balance programs, Corporate Culture, Management Control, HR Policies and Employee Control (S. Pattu Meenakshi et al., (2013). it is compulsory for the employer to frame the work life balance programs and initiatives to promote the balance between personal and professional Life. There is every need for the organization to adopt HR policies and strategies that help in attaining work Life Balance (K. Triveni Kumari & V. Rama Devi (2013). There is a significant effect of work life balance programs on job satisfaction and work life balance among the male employees. Work life balance program comprehensiveness is higher among the high income groups than low income groups (Yutaka Ueda et al (2012). Work life balance is the equilibrium between personal life and professional life. They found that the majority of the respondents are comfortable with their Workplace. Work Life Balance increases the efficiency of the employees which in turn increases the productivity, Job satisfaction and Personal satisfaction (Varatharaj V. & Vasantha S 2012).

From the above review of literature, it is very clear that WLB initiatives play vital role in improving the employee satisfaction which leads to improved productivity. Keeping in view of the importance and since the studies have not covered employees of Hyderabad based IT companies, this study is intended to fill the gap.

Objectives of the Study :

1. To study the importance of work life balance initiatives in IT Companies.

2. To analyze satisfaction of employees towards work life balance initiatives in IT Companies.

Research Methodology :

Primary as well as secondary data has been used for the purpose of the study. Primary data has been collected from 400 Women employees working in various IT companies in Hyderabad. Secondary data has been collected from various Books, Journals, Articles and Websites. In the present study, 14 work life balance initiatives are considered to analyze and interpret in terms of importance and satisfaction. These work life balance initiatives are considered after going through previous studies, books and company websites. The work life balance initiatives

which are selected in the study as follows : Flexible Working Hours, Work from Home, Employee Assistance program, Availability of Leaves when required, Company Transportation facility, Team outing for recreations, Physical fitness programs, Counselling for Mental Health, Dormitory to take rest, Child care facilities, Paid vacation, Providing food at free of cost, Encouraging to participate in Community services and Conducting Games, Sports, cultural and family events.

The paper consists of three parts. Part – I of the paper deals with the importance of employees towards work life balance initiatives. Part – II consists of employee satisfaction towards work life balance initiatives. Part – III deals with Importance-Satisfaction analysis of work life balance initiatives.

Part-I : Importance of Work Life Balance Initiatives

Table-1 : Work Life Balance Initiatives – Importance

Work life balance initiatives		1	2	3	4	5	Total
Flexible Working Hours	F	0	3	15	100	282	400
	%	0.0	0.8	3.7	25.0	70.5	100
Work From Home	F	7	23	77	131	162	400
	%	1.7	5.7	19.3	32.8	40.5	100
Employee Assistance program	F	3	9	64	184	140	400
	%	0.8	2.2	16.0	46.0	35.0	100
Availability of Leaves when required	F	1	7	16	136	240	400
	%	0.3	1.7	4.0	34.0	60.0	100
Company Transportation facility	F	0	4	21	125	250	400
	%	0.0	1.0	5.3	31.2	62.5	100
Team outing for recreations	F	3	14	79	162	142	400
	%	0.8	3.5	19.7	40.5	35.5	100
Physical fitness programs	F	2	13	48	159	178	400
	%	0.5	3.3	12.0	39.7	44.5	100
Counselling for Mental Health	F	3	11	67	108	211	400
	%	0.8	2.7	16.7	27.0	52.8	100
Dormitory to take rest	F	2	9	52	176	161	400
	%	0.5	2.3	13.0	44.0	40.2	100
Child care facilities	F	9	11	51	157	172	400
	%	2.3	2.7	12.8	39.2	43.0	100

Contd...

Paid vacation	F	12	24	67	146	151	400
	%	3.0	6.0	16.7	36.5	37.8	100
Providing food at free of cost	F	12	18	85	112	173	400
	%	3.0	4.5	21.3	28.0	43.2	100
Encouraging to participate in Community services	F	4	21	71	157	147	400
	%	1.0	5.3	17.8	39.2	36.7	100
Conducting Games, Sports, cultural and family events	F	7	5	44	160	184	400
	%	1.7	1.3	11.0	40.0	46.0	100

(Source: Primary data)
(*Note: Not at all Important =1, Slightly Important = 2, Moderately Important = 3, Important = 4, Most Important = 5, F = Frequency, % = Percentage)

The above table represents the opinion of the respondents regarding the importance of work life balance initiatives. 14 variety initiatives were considered for collecting the responses. They are: Flexible Working Hours, Work from Home, Employee Assistance program, Availability of Leaves when required, Company Transportation facility, Team outing for recreations, Physical fitness programs, Counselling for Mental Health, Dormitory to take rest, Child care facilities, Paid vacation, Providing food at free of cost, Encouraging to participate in Community services and Conducting Games, Sports, cultural and family events.

Regarding Flexible Working Hours, out of 400 respondents, 282 respondents opined that it is most important work life balance program to promote work life balance, 100 respondents gave response as it is important to promote work life balance, 15 respondents responded that it is moderately important for work life balance; only 3 opined that it is as slightly important. On the basis of Work from Home, the responses are as follows: out of 400 respondents, 162 respondents expressed that Work from home is most important to have better work life balance, 131 respondents revealed it is as important, 77 respondents responded that work from home is moderately important, 23 respondents opined that work from home is slightly important and only 7 of the respondents are of the opinion that work from home is not at all important.

Regarding Employee assistance program, out of 400 respondents 140 respondents expressed it as most important program to promote work life balance, 184 respondents gave response as it is important, 64 respondents opined that it is moderately important for work life balance, 9 responded that it is as slightly Important and 3 respondents revealed it as not at all important. Out of

400 respondents, 240 respondents responded that availability of leave when required is the most important element that helps in achieving a good work life balance. 136 respondents expressed that availability of leave when required is important, 16 respondents are of the opinion that leave when required is moderately important, 7 respondents revealed that it is slightly important and only 1 respondent under the opinion that availability of when require is not at all important to have a better work life balance.

On the basis of Company Transportation respondents responses are as follows: out of 400 respondents, 250 respondents expressed that company transportation is most important to have better work life balance, 125 respondents responded that it is important, 21 respondents under the opinion that company transportation is moderately important, 4 respondents are of the opinion that the company transportation is slightly important.

The responses of the respondents regarding Team outings for recreation is as follows: 142 responded that it as most important work life balance program to enhance work life balance, 162 respondents are of the opinion that team outings are important, 79 have responded that this facility is moderately important, 14 responded it as slightly important and only 3 respondents expressed that team outings are not all important to have a better work life balance. Regarding Physical Fitness program, out of 400 respondents, 178 respondents opined it as most important program to promote work life balance, 159 respondents gave response as it is important to promote work life balance, 48 responded that it is moderately important for work life balance, 13 expressed that it is Slightly Important and 2 respondents opined it as not at all important.

Out of 400 respondents, 211 respondents expressed that counselling for mental health is most important element that helps in achieving better work life balance. 108 respondents of the opinion that counselling for mental health is important, 67 respondents are of the opinion that counselling for mental health is moderately important, 11 respondents under the opinion that it is slightly important and only 3 respondents opined that the counselling for mental health is not at all important.

In respect of dormitory facility, the responses are as follows: out of 400 respondents, 161 respondents expressed that dormitory facility to take rest is most important to have better work life balance, 176 respondents opined that it

is important, 52 respondents revealed that dormitory facility is moderately important, 9 respondents expressed that dormitory is slightly important and only 2 respondents are of the opinion that dormitory to take rest is not at all important to promote work life balance. With regard to child care facility, the responses are as follows: out of 400 respondents, 172 respondents opined that it is most important to have better work life balance, 157 responded it is important, 51 respondents revealed that child care facility is moderately important, 11 respondents are of the opinion that child care facility is slightly important and only 9 respondents are of the opinion that child care facility is not at all important to promote work life balance.

Regarding paid vacation, out of 400 respondents, 151 responses found as paid vacation is most important to promote work life balance, 146 respondents opined it as important program to promote work life balance, 67 respondents revealed that it is moderately important for work life balance, 24 responses found that it is slightly important and 12 respondents found as paid vacation is not at all important to enhance work life balance. 173 respondents out of 400 are of the opinion that providing food at free of cost is most important to promote better work life balance, 112 respondents are of the opinion that food for free is important, 85 respondents opined that it is moderately important, 18 respondents are under the opinion that it is slightly important and 12 respondents revealed that providing food for free of cost is not at all important program.

With regard to participation in community, the respondents opinions are as follows: out of 400 respondents 147 respondents opined that participating in community service is the most important program to have better work life balance, 157 respondents revealed it is as important, 71 respondents are of the opinion that community service is moderately important, 21 responses found that community service is slightly important and only 4 respondents are of the opinion that taking part in community service is not at all important.

Out of 400 respondents, 184 respondents expressed that conducting games, sports, cultural events and family events are the most important element that helps in achieving a good work life balance. 160 respondents opined it as important, 44respondents are of the opinion that these initiatives are moderately important, 5 respondents opined that it is slightly important and only 7 respondents are under the opinion that the games, sports, cultural events and family events are not at all important to achieve better work life balance.

Table-2 : Work Life Balance Initiatives – Ranking

Work life balance initiatives	N	Mean	Std. Dev.	Rank
Flexible Working Hours	400	4.65	0.59	1
Work From Home	400	4.05	0.993	12
Employee Assistance program	400	4.12	0.809	9
Availability of Leaves when required	400	4.52	0.683	3
Company Transportation facility	400	4.55	0.643	2
Team outing for recreations	400	4.07	0.87	10
Physical fitness programs	400	4.24	0.826	6
Counselling for Mental Health	400	4.28	0.891	4
Dormitory to take rest	400	4.21	0.79	7
Child care facilities	400	4.18	0.916	8
Paid vacation	400	4	1.028	14
Providing food at free of cost	400	4.04	1.047	13
Encouraging to participate in Community services	400	4.06	0.919	11
Conducting Games, Sports, cultural and family events	400	4.27	0.84	5

(Source: Primary data)

The above table represents the ranks of the work life balance initiatives based on mean. Based on the responses given by the respondents the ranks were allotted as follows. Out of 14 initiatives, Flexible working hours stood at 1st with a mean value of 4.65, followed by Company transportation facility (stood 2nd with 4.55 mean), Availability of leave when required (3rd with 4.52 mean). Counselling for mental health ranked 4 with mean value of 4.28 followed by Conducting games, sports and cultural & Family events 5th rank with mean of 4.27. Respondents gave 6th priority to Physical fitness programs (with 4.24) followed by Dormitory facility (7th rank with 4.21 mean). 8th rank was given to Child care a facility with mean value 4.18 and 9th rank was given to Employee assistant program with mean value of 4.12. Team outing ranked 10th with 4.07 mean and 11th rank allotted to participation in Community services with mean 4.06. Work from home stood at 12th with mean 4.05 followed by Food at free of cost (13th rank with 4.04 mean) and last rank 14th allotted to paid vacation with mean of 4.00. Most of the respondents are of the opinion that all the work life balance initiatives are important to have a better work life balance as the mean of all the initiatives are 4.00 and more.

Part-II : Work Life Balance Initiatives - Satisfaction

Table-3 : Work Life Balance Initiatives - Satisfaction

Work life balance initiatives		H. D.	D.	N.	S.	H. S.	Total
Flexible Working Hours	F	2	14	62	195	127	400
	%	0.5	3.5	15.5	48.8	31.7	100
Work From Home	F	7	25	75	177	116	400
	%	1.7	6.3	18.7	44.3	29.0	100
Employee Assistance program	F	10	34	124	157	75	400
	%	2.5	8.5	31.0	39.3	18.7	100
Availability of Leaves when required	F	5	21	96	167	111	400
	%	1.3	5.3	24.0	41.7	27.7	100
Company Transportation facility	F	21	37	100	139	103	400
	%	5.3	9.3	25.0	34.7	25.7	100
Team outing for recreations	F	37	63	153	109	38	400
	%	9.2	15.8	38.3	27.3	9.4	100
Physical fitness programs	F	27	40	140	129	64	400
	%	6.8	10.0	35.0	32.2	16.0	100
Counselling for Mental Health	F	22	44	122	135	77	400
	%	5.5	11.0	30.5	33.7	19.3	100
Dormitory to take rest	F	29	50	125	130	66	400
	%	7.3	12.5	31.2	32.5	16.5	100
Child care facilities	F	49	41	161	87	62	400
	%	12.3	10.3	40.20	21.7	15.5	100
Paid vacation	F	70	62	124	102	42	400
	%	17.5	15.5	31.0	25.5	10.5	100
Providing food at free of cost	F	120	69	92	75	44	400
	%	30.0	17.2	23.0	18.8	11.0	100
Encouraging to participate in Community services	F	31	40	126	140	63	400
	%	7.7	10.0	31.5	35.0	15.8	100
Conducting Games, Sports, cultural and family events	F	34	40	119	132	75	400
	%	8.5	10.0	29.7	33.0	18.8	100

(Source: Primary data)
(*Note: H.D. = Highly Dissatisfied, D= Dissatisfied, N = Neither Satisfied Nor Dissatisfied, S = Satisfied, H.S. = Highly Satisfied, F = Frequency, % =Percentage)

The above table represents the satisfaction of respondents on various work life balance initiatives of the organization. Out of 400 respondents 127 (31.7%) respondents are highly satisfied with Flexible working hours, 195 (48.8%) respondents are satisfied, 62 (15.5%) respondents are neither satisfied nor dissatisfied, 14 (3.5%) respondents are dissatisfied and only 2 (0.5%) respondents are highly dissatisfied in respect of flexible working hours. Based on respondent's satisfaction regarding Work from home, 116 (29%) respondents are highly satisfied, 177 (44.3%) respondents are satisfied, 75 (18.7%) respondents are neutral, 25 (6.3%) of the respondents are dissatisfied and 7 (1.7%) of the respondents are highly dissatisfied. Regarding Employee Assistance programs 75 (18.7%) respondents are highly satisfied, 157 (39.3%) respondents are satisfied, 124 (31%) respondents are neutral about employee assistance programs, 34 (8.5%) respondents are dissatisfied and 10 (2.5%) respondents are highly dissatisfied about employee assistance programs. Among 400 respondents, 111 (27.7%) respondents are highly satisfied about the availability of leave, 167 (41.7%) respondents are satisfied, 96 (24%) respondents are neutral, 21 (5.3%) respondents are dissatisfied and 5 (1.3%) respondents are highly dissatisfied about availability of leaves in the organization.

Out of 400 respondents 103 (25.7%) respondents are highly satisfied with Company transportation, 139 (34.7%) respondents are satisfied, 100 (25%) respondents are neither satisfied nor dissatisfied, 37 (9.3%) respondents are dissatisfied and only 21 (5.3%) respondents are highly dissatisfied with company transportation facility. Based on Team outings, 38 (9.4%) respondents are highly satisfied, 109 (27.3%) respondents are satisfied, 153 (38.3%) respondents are neutral, 63 (15.8%) respondents are dissatisfied and 37 (9.2%) respondents are highly dissatisfied. Regarding Physical Fitness Programs 64 (16%) respondents are highly satisfied, 129 (32.2%) respondents are satisfied, 140 (35%) respondents are neutral about Physical Fitness Programs, 40 (10%) of the respondents are dissatisfied and 27 (6.8%) respondents are highly dissatisfied about Physical Fitness Programs.

Out of 400 respondents 77 (19.3%) respondents are highly satisfied with Counselling for Mental Health, 135 (33.7%) respondents are satisfied, 122 (30.5%) respondents are neither satisfied nor dissatisfied, 44 (11%) respondents are dissatisfied and only 22 (5.5%) respondents are highly dissatisfied with Counselling programs. Based on Dormitory facility the respondents satisfaction is as follows: 66 (16.5%) respondents are highly satisfied, 130 (32.5%) respondents are satisfied, 125 (31.2%) respondents are neutral, 50 (12.5%) of the respondents are dissatisfied and 29 (7.3%) of the respondents are highly dissatisfied.

Among 400 respondents, 62 (15.5%) respondents are highly satisfied with the Child care facility, 87 (21.7%) respondents are satisfied, 161 (40.2%) respondents are neutral, 41 (10.3%) respondents are dissatisfied and 49 (12.3%) respondents are highly dissatisfied. Out of 400 respondents 42 (10.5%) respondents are highly satisfied with Paid Vacation, 102 (25.5%) respondents are satisfied, 124 (31%) respondents are neither satisfied nor dissatisfied, 62 (15.5%) respondents are dissatisfied and only 70 (17.5%) respondents are highly dissatisfied with Paid vacation. Regarding Providing food at free of cost 44 (11%) respondents are highly satisfied, 75 (18.8%) respondents are satisfied, 92 (23%) of the respondents are neutral, 69 (17.2%) respondents are dissatisfied and 120 (30%) respondents are highly dissatisfied about providing food for free. Based on Community Service the respondents satisfaction is as follows: 63 (15.8%) respondents are highly satisfied, 140 (35%) respondents are satisfied, 126 (31.5%) respondents are neutral, 40 (10%) of the respondents are dissatisfied and 31 (7.7%) of the respondents are highly dissatisfied. Based on Games, Sports, Cultural & Family Events, 75 (18.8%) respondents are highly satisfied, 132 (33%) respondents are satisfied, 119 (29.7%) respondents are neutral, 40 (10%) of the respondents are dissatisfied and 34 (8.5%) respondents are highly dissatisfied.

Table-4 : Work Life Balance Initiatives – Ranking based on Satisfaction

Work life balance initiatives	N	Mean	Std. Dev.	Rank
Flexible Working Hours	400	4.08	.808	1
Work From Home	400	3.93	.939	2
Employee Assistance program	400	3.63	.964	5
Availability of Leaves when required	400	3.90	.912	3
Company Transportation facility	400	3.67	1.114	4
Team outing for recreations	400	3.12	1.081	12
Physical fitness programs	400	3.41	1.081	8
Counselling for Mental Health	400	3.50	1.090	6
Dormitory to take rest	400	3.39	1.120	10
Child care facilities	400	3.18	1.184	11
Paid vacation	400	2.96	1.238	13
Providing food at free of cost	400	2.64	1.368	14
Encouraging to participate in Community services	400	3.41	1.107	9
Conducting Games, Sports, cultural and family events	400	3.44	1.155	7

(Source: Primary data)

The above table respondents' satisfaction regarding various work life balance initiatives of the organization. All the 14 initiatives were ranked based on the basis of mean satisfaction of the respondents. Flexible Working Hours (mean 4.08), Work from Home (mean 3.93), Availability of Leaves when required (mean 3.90), Company Transportation facility (mean 3.67) and Employee Assistance program (mean 3.63) are ranked 1 to 5 respectively as the mean is higher. Some of the work life balance initiatives were least ranked by the respondents they are: Providing food at free of cost 14th rank with 2.64 mean value, Paid vacation 13th rank with 2.96 mean value, Team outing for recreations 12th rank with 3.12 mean value, Child care facilities 11th rank with 3.18 mean value and 10th rank was given to Dormitory to take rest with 3.38 mean value. There are some work life balance initiatives which are in between. Counselling for Mental Health (mean 3.50), Conducting Games, Sports, cultural and family events, Physical fitness programs (mean 3.44) Physical fitness programs (mean 3.41) and encouraging participation in Community services (mean 3.41) were ranked 6 to 9 respectively.

Part-III : Importance – Satisfaction (Leverage) Analysis

The Importance and Performance Analysis (IPA) model is a method for evaluating the relative importance and performance of various factors that contribute to the success of an organization. It was developed by John Martilla and Jon James in 1977 and has since been widely used in a variety of industries. This method was introduced to identify the customer level of importance of product/service and level of performance of the same. Overall, the IPA model is a useful tool for organizations to understand the drivers of their success and to identify opportunities for improvement.

For the purpose of the present study the "Performance" is replaced by "Satisfaction". First of all, the 'Importance Mean' and 'Satisfaction Mean' of each work life balance program have been calculated. Then the 'Mean of Importance Mean' (4.23) and 'Mean of Satisfaction Mean' (3.44) are derived for each work life balance program. These two means are used for Importance – Satisfaction Analysis. This analysis helps the organization in decision making regarding work life balance programs offered.

Table-5 : Importance – Satisfaction (Leverage) Analysis

Quadrant	Work life balance initiatives	Importance Mean	Satisfaction Mean
QA	Physical Fitness Programs	4.24	3.41
	Conducting Games, Sports, cultural and family events	4.27	3.44
QB	Company Transportation facility	4.55	3.67
	Counselling for Mental Health	4.28	3.5
	Availability of Leaves when required	4.52	3.9
	Flexible Working Hours	4.65	4.08
QC	Employee Assistance program	4.12	3.63
	Work from Home	4.05	3.93
QD	Providing food at free of cost	4.04	2.64
	Child care facilities	4.18	3.18
	Paid vacation	4	2.96
	Team outing for recreations	4.07	3.12
	Dormitory to take rest	4.21	3.39
	Encouraging to participate in Community services	4.06	3.41
Mean		4.23	3.44

(Source: Primary data)

The table-5 represents the importance mean and satisfaction mean of all the work life balance initiatives considered for the study. All the work life balance initiatives are divided into four quadrants. These quadrants are derived based on the 'mean of importance' (4.23) and 'mean of satisfaction' (3.44). From the "importance" point of view Quadrant – A & Quadrant – B are considered as the most important work life balance initiatives as their mean is greater than 'Mean of Importance Mean' 4.23. Quadrant – C and Quadrant – D are considered as less important work life balance initiatives as their means are below the 'Mean of Importance Mean' 4.23.

From the "Satisfaction" point of view Quadrant – B and Quadrant – C are categorized as most satisfied work life balance initiatives as their mean is greater than 'Mean of Satisfaction Mean' 3.44. Quadrant – A and Quadrant – D are considered as less satisfied work life balance initiatives as their means are below the 'Mean of Satisfaction Mean' 3.44. The Importance - Satisfaction graph is

plotted using Means of importance of work life balance initiatives as well as Means of satisfaction of work life balance initiatives. It explains where the organization needs to concentrate and where the organization can relax. Importance – Satisfaction Analysis graph is drawn with the help of intersection points of 'Mean of Importance Mean' 4.23 and 'Mean of Satisfaction Mean' 3.44, all the work life balance initiatives are categorized in four quadrants.

Figure-1 : Importance – Satisfaction (Leverage) Analysis
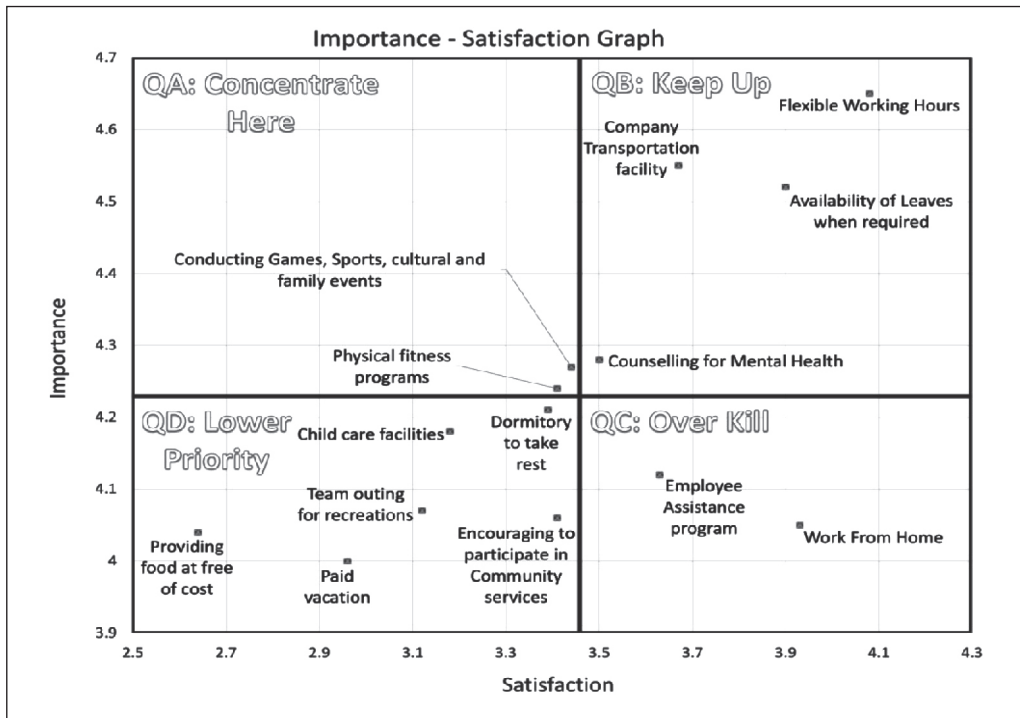
(Source: Primary data)

Quadrant – A : First quadrant plotted on the top left corner of the graph. It is the High importance – Low satisfaction zone. It is the area where, organization needs to concentrate. The work life balance initiatives which are more important but less satisfied by the employee will come under this category. Two work life balance initiatives are categorised in this quadrant. "Conducting games, sports, cultural and family events" and "Physical fitness programs" have high importance but low satisfaction among the respondents. Organizations must

try to implement more physical fitness programs and conduct as many games and events as possible. Investing in these initiatives really helps the organization to have employees with good work life balance.

Quadrant – B : Second quadrant plotted on the top right corner of the graph. It is High importance – High satisfaction zone. It covers those work life balance initiatives that are treated as highly important and the organization is also able to meet the employee expectation. It is the area where the organization needs to maintain its efforts. In this case four work life balance initiatives namely "Counselling for mental health", "Company transportation facility", "Availability of leaves when required" and "Flexible working hours" are polled. Employer needs to keep going with this quadrant and continue its efforts.

Quadrant – C : Third quadrant plotted on the bottom right of the graphs. It represents Low importance – High satisfaction zone. Two initiatives are categorized under this quadrant they are "Employee assistance program" and "Work from home". These two work life balance initiatives have low importance but high satisfaction among the respondents. It says that organizations can reduce the efforts on low prioritized initiatives. Instead, it can use these efforts and resources in another area where employee expectations are high but satisfaction is low.

Quadrant – D : Fourth quadrant plotted on the bottom left of the graph. It represents Low importance – Low satisfaction zone. In this quadrant employees have low importance as well as low satisfaction. In this quadrant six work life balance initiatives are categorized. They are "Providing food at free of cost", "Child care facilities", "Paid vacation", "Team outings for recreations", "Dormitory to take rest" and "Encouraging to participate in community services". As these initiatives are low prioritised and low satisfaction by the employees, organizations need not focus here.

Conclusion:

From the above detailed analysis it can be concluded that the work life balance initiatives have significant influence on the work life balance of the employees. They have a direct impact on the work life balance of the users. Most of the organizations offer a variety of initiatives to promote their employee work life balance. The organization needs to look into the prioritizations of their employees while designing and offering work life balance initiatives. The study reveals that majority respondents felt that the fourteen identified work life balance

initiatives are important to have better work life balance. They are also satisfied with the work life balance initiatives offered by the organization. Importance – Satisfaction Analysis reveals that "Conducting games, sports, cultural and family events" and "Physical fitness programs" have high importance but low satisfaction among the respondents when compared with other work life balance initiatives. "Counselling for mental health", "Company transportation facility", "Availability of leaves when required" and "Flexible working hours" have high importance and high satisfaction among the respondents when compared to other initiatives. "Employee assistance program" and "Work from home" are treated as Low importance – High satisfaction work life balance initiatives. "Providing food at free of cost", "Child care facilities", "Paid vacation", "Team outings for recreations", "Dormitory to take rest" and "Encouraging to participate in community services" are categorized as low important and low satisfaction work life balance initiatives.

The findings of the study are in line with majority of the previous studies, where several initiatives are highly important but the employees' satisfaction levels are low vice versa few initiatives are of less importance but the satisfaction levels of the employees is very high. Employers need to concentrate on "Quadrant – A" initiatives so that they can improve the work life balance of the employees. Designing and implementing the work life balance initiatives according to the needs and requirements of the employees can improve the work life balance and satisfaction among the employees.

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E-WOM : Online Customer Reviews on Premium Casual Dining Restaurants in Goa

STEFFI SOPHIA QUINTAL AND Y.V. REDDY

Abstract : *As the restaurant industry is flourishing daily, people need help selecting the best available option. With the mounting use of social media and Online Consumer Review platforms, it is easier for prospective customers looking for information to select restaurants from the available alternatives. It allows users to express their opinions to millions of prospective customers. This study highlights the importance of e-Word of Mouth and emphasizes whether the reviews from restaurant aggregator apps such as Zomato and Tripadvisor apps match. The top 10 premium casual dining restaurants are taken each from North Goa and South Goa, and their information on overall ratings and variables, viz. food, service, and ambience, are collected based on reviews from restaurant aggregator apps such as Zomato and Tripadvisor apps. After analysing the data using t-test, it was proved that food is not the only criterion for the overall rating. Even service and ambience play a significant role in the purpose of overall satisfaction of the customers.*

Introduction

Word Of Mouth (WOM) has been considered an essential factor in decision-making processes especially for industries which are customer oriented. It is defined as an informal communication between a perceived communicator and a receiver regarding any product or service (Harrison-Walker, 2001). E-Word of Mouth is basically Word of Mouth communication through electronic mode such as social media platforms, blogging websites, video blogging websites,

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microblogging websites. According to Antoni Serra Cantallops (2014), "The main differences between WOM and e-WOM can be identified in the reach of the reviews' impact (number of people who can be influenced) and the speed of interaction." This that the effectiveness of traditional WOM and electronic-WOM (e-WOM) depends upon their impact on prospective buyers. However, traditional WOM communication operates within limited social boundaries, whereas e-WOM can reach a wider geographical area (Mohammad Reza Jalilvanda, 2011).

Increasing consumer voice through the internet has become a huge part of consumer empowerment wherein consumers are free to give their opinions on their experiences and spread them to millions of people through e-WOM. With the increase in reviewed restaurants, Online Consumer Review (OCR) websites have achieved democratization (Kevin Mellet, 2014). Websites and social media platforms have given customers more comprehensive options to interact with family and friends worldwide. The internet platforms such as blogs, forums, social media, review websites, and apps have given rise to Consumer Generated Media (CGM). CGM plays a crucial role in the process of selecting a restaurant as the customers depends on reviews before making a decision and then after experiencing the restaurant service, they also share their opinion on their preferred restaurant (Yang, 2013). With many options available, sometimes customers need clarification while making a decision, and therefore, there are some platforms where ranks are provided to the variables and they also categorised with the price and place. This makes it easier for customers to go through the available information. The main motive of this type of platforms is to help the customers in decision making (Santos, 2017).

Literature Review

In this study, we have analysed reviews of restaurant aggregator apps such as Zomato and Tripadvisor which allows restaurant owners to share their information on restaurant food and service. On the other hand, customers can share their reviews based on their experience. This facilitates the aggregator app users, who are potential customers to identify restaurants based on their preferences such food quality, ambience, service apart from other parameters such as location, cost of food, facilities such as parking, kids play area, etc.

Electronic word of mouth and reviews plays a very important role in the tourism industry as tourists highly depend on the recommendations before making any decision (Marios D. Sotiriadis, 2013). Electronic word of mouth has also

overpowered the hotel industry and there are many studies that have been conducted on factors influencing electronic word of mouth in hotel industry (Rana Tajvidi, 2017). Many customer reviews overflows every now and then and this has made it easy to understand customer satisfaction and expectation (Shaowu Liu, 2013). It is proved that highly satisfied customers become loyal customers, and they also deal in the recommendation process (J.M & K.N, 1994).

Word of mouth becomes essential when an individual had zero experience with a service. When it comes to e-WOM, reviews with photos and videos have more impact as it has more authenticity (Lo, 2014). According to Knoll's latest research (2015), the impact of e-WOM has to be studied with consumer behaviour towards the availability of information (knoll, 2015). Some researchers have reported WOM has more impact than any other mode of publicity (Engel, 1969).

As WOM is a consumer-dominated channel, it is more reliable and trustworthy as the sender is independent of the market (S. S. Doma, 2015). Although e-WOM is derived from traditional WOM, wherein WOM is more face-to-face communication, whereas, e-WOM is through online platforms (Hoffman, 1996). Due to the easy transfer of information through online platforms, e-WOM has faster transmission of information than traditional WOM. On the other hand, e-WOM is measurable and can be used by researchers who wish to study various variables that satisfy customers (Park, 2009).

Word-of-mouth communication is a critical factor in building marketing strategies and communications, and it is a widely accepted promotional tool. The emergence of the internet and increased social media have added a new dimension to traditional WOM, thereby, translating it into e-WOM (Anubhav Mishra, 2016). Web based technologies have shaped many opportunities for e-WOM communication. Online communication impacts retailers as this information could affect the customers' decision who depend on online reviews (Christy M.K. Cheung, 2008). Vigorous use of social media comprehensively influenced generation Y's intentions to engross in e-WOM about their positive or negative service experiences. (Tingting (Christina) Zhang, 2017). Positive e-WOM motivates customers to make purchases, whereas negative e-WOM depresses customers from acquiring products/ services. When compared between negative and positive e-WOM, negative e-WOM has more impact on customers (Vo, 2017). It was found that "positive emotional experiences have a positive effect on satisfaction, e-WOM generation, and company reputation." This means emotional experiences are the powerful initiator of constructive e-WOM (Antoni Serra-Cantallops, 2018).

Consumers are encouraged or influenced by the environment during the decision buying process. This environment may include factors like social media, reviews, personal motives, family and so on (R. D. Blackwell, 2006). (Nantel, 2004) Opinions of experienced customers were found to be a great source of information and an influencer on new customers' buying decision process. The increase in blogs, online review platforms, and social media platforms have become a part of the pre-purchase stage, where the customers read and then go ahead with the buying decision (J. Lee, 2008). The amount of information flooded through e-WOM has influenced customers to take the pre-purchase stage more seriously. Moreover, customers look for more negative comments than positive ones before making a buying decision. (R. T. Frambach, 2007) Consumers finding information through online sources go through the pre-purchase stage, purchase and post-purchase stage, which means consumers search for product and service information at the pre-purchase stage, then make the buying decision and then share their experience at the post-purchase stage.

E-Word of Mouth (e-WOM)

Having a more number of reviews is highly influential and in addition negative reviews can damage the image of the service provider. Reading positive reviews has a stronger influence in making a buying decision (Wen-Chin Tsaoa, 2015). Word of mouth has always been a major factor in hospitality and tourism industry and with consumers sharing their opinions online it has given rise to e-WOM (Chih-Lun Alna Yena, 2015). E-WOM through social media has made it more convenient to people to discuss on the products and services that they use with their friends and family. E-WOM not only depends on the characteristics of e-word of mouth information but also depends on the consumer behavior towards e-WOM (Ismail Erkan, 2016).

Now a day's food bloggers are becoming influencers in the restaurant industry and customers really look for their opinion (Nur.Hanifati, 2015). (Al-Azzam1, 2016) According to them, restaurant selection is based on four attributes positive and negative word of mouth, restaurant website, community trustworthiness and source credibility out of which getting trust worthy information had a highest outcome. Which means e-WOM with true and trust worthy information will influence customers buying decision. The one who is posting information on social media should be very responsible as people must be following their opinion. In order to get engaged with consumers the companies should get involved with online consumer communities and provide the relevant information as customers are more influenced by many online sites (Mohammad Reza Jalilvanda, 2011).

In his study it was found that communication through social media is much more faster than offline communication. One of the respondents in his paper says that he would provide e-wom not to benefit the restaurant but to benefits his friends. The use of social media has changed reception of the information and people now-a-days are dependent more on social media information to make their buying decisions (Gavin Fox, 2016).

According to (FICCI, indian Food Services Industry: Engine for Economic Growth & Employment, 2017) Federation of Indian Chambers of Commerce and Industry (in their report on 'Indian Food Services Industry: Engine for Economic Growth and Employment') :

● The restaurant industry is one of the rapidly growing industries. This Industry has also generated employment opportunities in the country.

● Categorized the Indian Food Services Industry into 3 Phases. Phase 1 focuses on rapid development in metro and mini-metro cities which influenced the growth of restaurants in the 1990s. Phase 2 highlighted the increasing urbanization and rise in income influenced the growth in the restaurant industry also restaurant segmentation started in the 2000s and Phase 3 mainly focused on Customer Relationship Management.

● The segmentation was based on the services that the restaurant provided and was categorized as QSR, ACDR, PCDR and FDR.

● Growth drivers of the Indian food services Industry are Changes in Cultural and family behavior, large employment generation, a high segment of the young and working population, Nuclear families, working women, growing middle-class families and experience of Dining Out.

● The recent trends that are recoded in food service industry are Virtual Kitchen, Ingredient Players, food on the go, variation in Cuisines, Social Media Marketing and online orders and table reservations.

● The growth in food services industry in India has given a wide opportunity to food-tech companies to enter into the market. Some of the food-tech companies that we have are Swiggy, Zomato, Foodpanda and so on.

Premium Casual Dining Restaurants in Goa, India :

Restaurant plays vital role in the social life of people. Through migrations and tourists coming from all over the world to Goa to Goa, it has given Goan restaurant owners a scope to diversify their menu and expand their business.

Not only Goan's but people from other states and countries have opened up their restaurants in Goa as they feel that there is lot of growth potential in this State as it is a tourist destination.

This segment of Restaurant is a combination of Fine Dining Restaurant and Casual Dining Restaurant. Premium Casual Dining Restaurants offer moderately priced food between Rs.1000 – Rs.2000 for two**.** Some of the popular Premium Casual Dining Restaurants in Goa are Fisherman's Wharf, Ritz Classic, Kokni Kanteen, Martin's Corner, Edward's Yard, The Yellow Chilli and Mum's Kitchen.

Objectives of the Study

- To analyze whether the reviews from Zomato match the reviews from Tripadvisor.

- To scrutinize the most important variable preferred by reviewers.

- To find out the most used app for reviews.

Hypotheses of the Study

H_0 : There is no significant difference between the reviews from Zomato and Tripadvisor apps with regards to variables (food, service and ambience).

H_0 : There is no significant difference between the overall ratings from Zomato and Tripadvisor.

H_0 : Food is not an important variable for overall positive ratings.

H_0 : Service is not an important variable for overall positive ratings.

H_0 : Ambience is not an important variable for overall positive ratings.

Research Methodology

This study investigates the genuineness of online customer reviews on premium casual dining restaurants displayed on restaurant aggregator apps, i.e., Zomato and Tripadvisor. In this research the top 10 premium casual dining restaurants were selected from North and South Goa each, and accordingly, their ratings were collected from restaurant aggregator apps Zomato and Tripadvisor based on food, service, and ambience. Apart from these three variables, the respondents have also shared the overall ratings of the restaurants.

This study would help restaurant owners know about customers' opinions on premium casual dining restaurants. The results would also benefit the restaurant apps (which provide platforms for reviews) by giving them insight into the behaviour of their reviewers. The online review platforms have given more scope to word of mouth, benefiting the new customers with zero experience as these reviews allows them to get a glance at the product/services. There are very few studies on restaurant review apps. This paper highlights the analysis of the reviews posted on restaurant review apps, which is a good insight for the customers to know more about such platforms to make wise decisions.

The list of the top 10 Premium Casual Dining Restaurants in North and South Goa are as follows:

North Goa Restaurants include Brittos, Thalassa, Copperleaf, Peep Kitchen, Fisherman's Wharf, Antares, Route 66, Mum's Kitchen, Goenchin, and Edward's Yard. South Goa Restaurants include Martin's Corner, Zeebop, The Camron, The Avenue, Peppers, Pantagon, Star Light, Spicy family Restaurant, Fisherman's Wharf and The Garden.

Restaurant aggregator apps Zomato and Tripadvisor apps have three variables in common for consumers' ratings, i.e., food, service, and ambience; apart from these, overall ratings are also included. These variables are tested with the help of t-test.

Data Collection

Secondary Data is collected from restaurant aggregator apps Zomato and Tripadvisor, wherein the top 10 Premium Casual dining restaurants were selected each from both the districts of Goa i.e. North Goa and South Goa, India. The selected restaurant ratings were collected (dated up to 30th March 2019) on three variables: food, service, and ambience and also overall restaurant ratings were considered. Further to arrive at appropriate findings, Independent t- test and paired sample t-test were used to fulfil the intended research objectives.

Analysis and Results

Objective-1 : Analysing whether the reviews from Zomato are matching reviews from Tripadvisor.

H_0 : There is no significant difference between the reviews from Zomato and Tripadvisor apps with regards to variables (food, service and ambience).

H_0 : There is no significant difference between the overall ratings from Zomato and Tripadvisor.

Table-1 : t-test for Reviews from Zomato and Tripadvisor Group Statistics

Variables	App	N	Mean	Std. Deviation	Std. Error Mean
Food	Zomato	20	4.3000	.73270	.16384
	Tripadvisor	20	4.0000	.98675	.22064
Service	Zomato	20	3.3500	2.03328	.45465
	Tripadvisor	20	4.0500	.35909	.08030
Ambience	Zomato	20	3.9500	.99868	.22331
	Tripadvisor	20	2.7250	2.06139	.46094
Overall Ratings	Zomato	20	4.2300	.30453	.06809
	Tripadvisor	20	4.2250	.30240	.06762

Source : Primary Data.

Table-2 : Independent Samples Test

		Levene's Test for Equality of Variance		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Food	Equal Variances assumed	.737	.396	1.092	38	.282	.30000	.27482	-.25635	.85635
	Equal variances not assumed			1.092	35.067	.282	.30000	.27482	-.25788	.85788
Service	Equal Variances assumed	32.016	.000	-1.516	38	.138	-.70000	.46169	-1.63464	.23464
	Equal variances not assumed			-1.516	20.184	.145	-.70000	.46169	-1.66251	.26251

Ambience	Equal Variances assumed	36.532	.000	2.392	38	.022	1.22500	.51219	.18813	2.26187
	Equal variances not assumed			2.392	27.453	.024	1.22500	.51219	.17489	2.27511
Overall Ratings	Equal Variances assumed	.828	.368	.052	38	.959	.00500	.09596	-.18927	19927
	Equal variances not assumed			.052	37.998	.959	.00500	.09596	-.18927	19927

Source : Authors' Compilation.

As per the above tables 1 and 2, the reviews from Zomato and Tripadvisor have almost similar reviews on food for premium casual dining restaurants. This is proved by Levene's test for equality of variances, which shows that the p-value is 0.396. This means that equal variance is assumed, as it is above 0.05 significant level. According to the t-test with p-value 0.282, it is clear that the null hypothesis is accepted, i.e., there is no significant difference between the reviews from Zomato and Tripadvisor regarding food reviews. The same applies to overall ratings of premium casual dining restaurants as the Levene's test for equality of variance p-value is 0.368, which means equal variances are assumed and as per the t-test p value 0.959, we accept the null hypothesis. This indicates that there is no significant difference between the overall ratings of Zomato and Tripadvisor on premium casual dining restaurants.

On the other hand, regarding service and ambience the Levene's test for equality of variance shows 0.000 which is less than 0.05, which means equal variances are not assumed for service and ambience. The t-test shows p-value for service 0.145, which means there is no significant difference between the reviews from Zomato and Tripadvisor.

With regards to ambience, the p-value of t-test is 0.024, which means we reject the null hypothesis that indicates there is significant difference in the review of Zomato and Tripadvisor regarding ambience of premium casual dining restaurants. Every person could have a different perception with regards to ambience and therefore the ratings vary. Another reason could be some reviewers

may give high emphasis to ambience to judge the quality of the restaurant but others may focus more on food and service even this could bring difference in opinion among the reviewers.

Objective-2 : Scrutinising the most important variable preferred by reviewers.

H_0 : Food is not an important variable for overall positive ratings.

H_0 : Service is not an important variable for overall positive ratings.

H_0 : Ambience is not an important variable for overall positive ratings.

Table-3 : Paired Sample Correlation

	N	Correlation	Sig.
Pair 1 Overall Ratings & Food	40	.362	.022
Pair 2 Overall Ratings & Services	40	.466	.002
Pair 2 Overall Ratings & Ambience	40	.181	.263

Table-4 : Paired Differences

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Differences				
				Lower	Upper			
Pair 1 Overall Ratings & Food	.07750	.81224	.12843	-.18227	.33727	.603	39	.550

Pair 2 Overall Ratings & Services	.52750	1.37038	.21668	.08923	.96577	2.435	39	.020
Pair 2 Overall Ratings & Ambience	.89000	1.68657	.26667	.35061	1.42939	3.337	39	.002

Source : Authors' Compilation.

As seen in the above table 3 of paired sample correlations, a positive relationship exists between all three pairs, which indicates that food, service, and ambience play a vital-role in the overall rating of premium casual dining restaurants. If the customer is pleased with all three variables, he/she will give good ratings to the restaurant.

In table 4 of paired sample test, it is clear that food is not the only important variable for the positive overall rating of premium casual dining restaurants, i.e., the p-value is 0.550 with regards to overall ratings and food, which means we accept the null hypothesis. In the other two cases, the alternative hypothesis is accepted, i.e., service, and ambience are important for the overall rating of the premium casual dining restaurant. It is clear that the food is not the only criterion for the overall rating; even service and ambience play a major role in the overall satisfaction of the customers. Since it is a premium casual dining restaurant, the customers also pay for the service and ambience along with the food that they order. Some customers visit premium casual dining restaurants to experience high quality ambience and to relax. There are people who spend more on the themed restaurants to get a good exposure of the services and exotic menu.

Objective-3 : Finding out the most used app for reviews:

Graph-1 : North Goa Data Interpretation
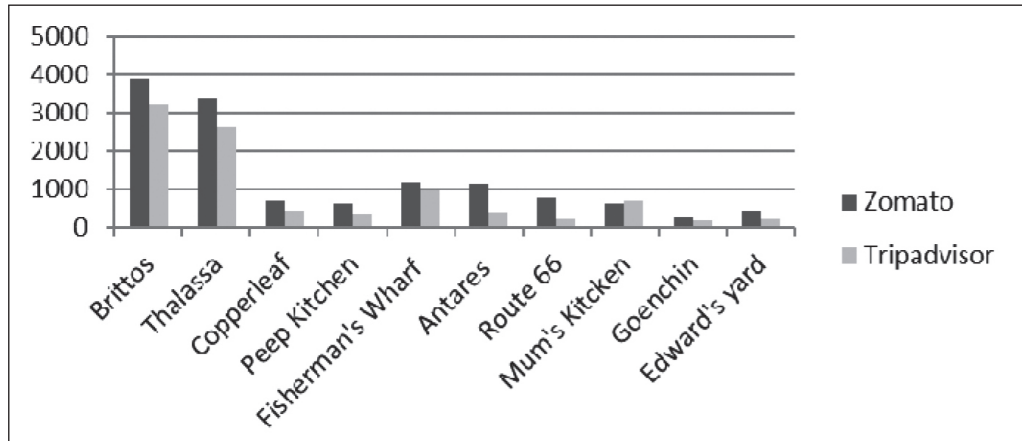
Source : Authors' Compilation.

Graph-2 : South Goa Data
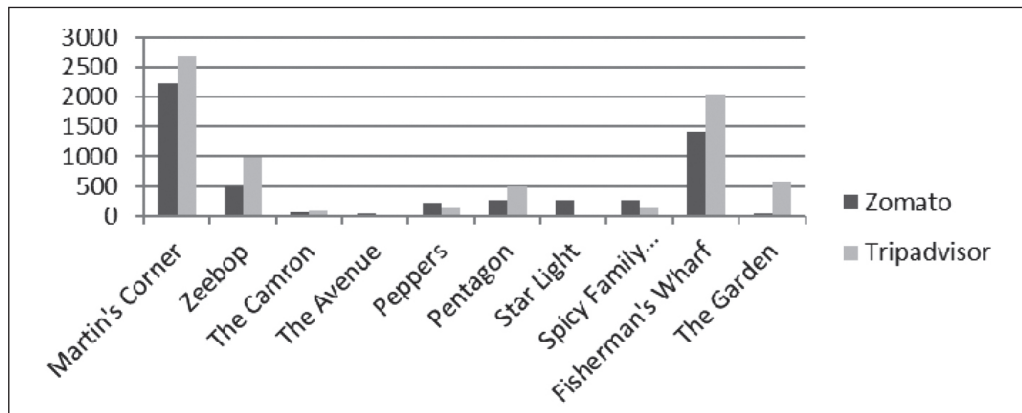
Source : Authors' Compilation.

As per the above graph 1 and graph 2 X-axis indicates the total number of reviews given by the reviewers of Zomato and Tripadvisor app and Y-axis indicates the names of the Premium Casual Dining Restaurants. Graph 1 represents the restaurants in North Goa and Graph 2 represents the restaurants in South Goa.

According to the reviews of North Goa of premium casual dining restaurants, the reviewer's preferred primarily the Zomato app. Whereas Reviewers of South Goa premium casual dining restaurants mostly rely on the Tripadvisor app. This is because most tourists visit South Goa; in that case, the Tripadvisor app has vast options like searching for hotels and popular places to visit apart from restaurant recommendations. However, in the case of the Zomato app, it is only restricted to the restaurant industry. Even Restaurants namely Brittos, Thalassa, Martin's Corner, Fisherman's Wharf have high number of reviews and as they are very popular in Goa because of positive word of mouth. This clearly highlights that word of mouth is one the most important, effective and genuine publicities which can generate more number of customers and is considered most reliable by the users.

Findings of the Study

The present study found no significant difference between the reviews from Zomato and Tripadvisor regarding food, service, and overall rating. Whereas, with regards to the ambience there is a significant difference. It is proved that food is not the only criterion for the overall rating; even service and ambience play a substantial role in the overall satisfaction of the customers. Since it is a premium casual dining restaurant, the customers also pay for the service, ambience, and food that they order. Some customers visit premium casual dining restaurant to experience quality ambience and relax. According to the reviews of North Goa premium casual dining restaurant, the reviewers mostly preferred the Zomato app. According to reviews of South Goa premium casual dining restaurants, the reviewers mostly rely on Tripadvisor.

Authors' Insight on Electronic Word of Mouth

Word-of-mouth communication is unpaid and one of the most credible promotion activities. In order to enjoy the privilege of word of mouth, the retailer has to satisfy their customers, and delight them, if possible. As satisfied customers would sometimes not go for word of mouth, a delighted customer would surely spread a positive word of mouth. With the speeding use of the internet, review platforms and social media are becoming a great source of electronic word of mouth. The review platforms have become a great source of information for new customers with zero experience. Nowadays, a customer goes for online reviews before making a buying decision.

Similarly, restaurant reviews have become a huge influencer for customers planning to visit the restaurant for the first time. But at the same time, a negative review can harm the retailer's image which is why keeping customers happy is essential. Online restaurant review platforms not only give new customers information but also allow retailers to work on negative comments and improve their services accordingly.

Throughout the study, we noticed that there were customers, especially tourists, who were highly involved in posting reviews on premium casual dining restaurants. Through reviews, they rate the restaurants based on the food, service, and ambience. Goa is a tourist destination, and it is not just the locals but also the tourists who visit the restaurant. They keep up with the expectations of both sets of customers, which is very challenging for the restaurant service providers in Goa. Online review platforms, in this case, were more genuine as recommendations were from a different set of customers, and there was less chance of finding biased reviews. Through reviews, it was also found that the customers were very keen on observing the restaurant's food, service, and ambience. This is because the customers also consider the ambience and service along with the food quality which they pay for in a premium casual dining restaurant. The photos were an additional part of the review process uploaded by the reviewers on Zomato and Tripadvisor. This shows that people are also keen on clicking pictures of the food and the restaurant's ambience if it is found to be impressive. This creates a plus point for the restaurant service provider as the reviewers promote their restaurant through electronic word of mouth.

Conclusion

It was evident that most of the customers share their reviews online now a days and this provides a great source to the new customers who are hunting for new restaurants outlets. Reviews has made decision making process easy for the new customers especially in terms of taking decisions in any kind of service industry restaurant being one of them. Premium Casual Dining Restaurant is known for its good ambience and services apart from its authentic and good quality food. As per this research, it is proved that the ratings the consumers give are genuine enough for other customers to make future decisions on visiting premium casual dining restaurants. Customers visit premium casual dining restaurants not just to enjoy good food but also to enjoy the overall ambience and service of the restaurant. Customers have different opinions regarding ambience. For some, ambience plays a very significant role; for some ambience

sometimes does not really matter. But overall, when customers visit a premium casual dining restaurant, they look for good food, service, and ambience as the customers pay for all three attributes. Even the online review apps Zomato and Tripadvisor has taken food, service and ambience as the main three attributes to rate the restaurants.

Limitations of the Study

This study was limited to the state of Goa, and the study's data collection was also limited to a specific period. Only the top 10 premium casual dining restaurants were taken from North Goa and South Goa, India. The restaurant variables analysed are limited to the variables offered by the restaurant apps. The data collected is limited to secondary data only. One can consider the overall restaurant industry for further research or study other branches of the restaurant industry like Quick Service Restaurants, Fine Dining Restaurants, Casual Dining Restaurants, and so on. One can also work with the primary data and take the customers' opinions of the customers to study the impact of electronic word of mouth on customers' decision-making process before visiting new restaurants.

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Development of Research on Entrepreneurial Intention : A Bibliometric

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Abstract : Using bibliometric analysis, this paper exhibits an outline of the main trends and themes in the field of Entrepreneurial Intention published in the journals which are indexed in the Scopus database in the time frame of January, 2013 to September, 2022. The results of this research indicate that the most significant journal is Sustainability (Switzerland). Furthermore, the nation with the highest production of research papers is Spain. Findings suggest that this field of research has been growing in the past decade. The outcome of this paper can guide the researchers in understanding the current trend of research in Entrepreneurial Intention and also to carry out further research on this subject.

Keywords : Bibliometric Analysis, Entrepreneurial Intention, Entrepreneurship, Literature Review, R Studio, VOS viewer.

1. Introduction

The advancement of a Country's economic condition largely depends on inspiring the entrepreneurial spirit (Popescu, et al., 2016). Entrepreneurship contributes to the growth and development of the global economy in general, and higher income countries (countries having higher Gross National Income per Capita) in particular (Acs and Szerb, 2007; Bosma et al., 2008). It can be viewed as a speedily developing area of research. There are various ways in which one can define Entrepreneurship. But in general, it can be said that Entrepreneurship is the procedure of discovering and assessing the prospects for creating innovative products and services (Shane and Venkatraman, 2000). Entrepreneurship plays a significant part in solving the unemployment problem in the society and for the overall prosperity of a country (Amari et al., 2014).

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Intentionality is a critical concept considering that it concentrates on comprehending the descriptions for careers of individuals (Franco, et al., 2010). Entrepreneurial Intentions (EI) can normally said to be a cognizant consciousness and belief by an individual who has the intention to establish a new venture and who has a vision to set it up in due course of time (Bird, 1988; Thompson, 2009). It is the conscious condition of mind that is followed by suitable action and leads attention towards entrepreneurial activities i.e., to start a new venture, thereby pursuing entrepreneurship (Moriano, et. al., 2012). The idea of EI is significant in the area of entrepreneurship literature. Researches on entrepreneurial intention have speedily developed in the last forty years (Dolhey, 2019). The origin of research on EI (Entrepreneurial Intention) can also be drawn back towards the events regarding the theory of planned behavior (Ajzen, 1991). If there exists no intent to pursue entrepreneurship, there will not be any consequent entrepreneurial actions (Zhang and Huang, 2021). The works related to Entrepreneurial Intentions (EI) have seen a rapid growth since the formative works have been published by Shapero, somewhere near about 40 decades before (Shapero, 1984; Shapero and Sokol, 1982). Ever since then, a greater number of papers have been written in this domain. In recent times, a good number of scholars have undertaken widespread research work on entrepreneurial intentions. Several academicians, organizations, scientific periodicals, and journals from various fields have been fascinated by this area for various causes, but that is primarily owing to the fact that intentions can be considered to be the antecedents of activities, as established by Ajzen (1991). EI research is a continuously developing domain which has numerous research works and is continuously on a rise with entrepreneurial intention becoming an influential academic context (Fayolle and Liñán, 2014).

From the available literature, it was evident that in comparison to other perspectives of Entrepreneurship, there have been only a handful of studies in the domain of EI, the most noteworthy one being Liñán and Fayolle (2015). In their study, they have carried out a methodical assessment related to researches on EI during the time frame of 2004-2013. They have analysed 409 papers in totality, which were published during this period. The study proved that EI can be considered to be consolidated within the wide-ranging area of entrepreneurship because of the volume of articles which have been published in the last decades. Another reason is the engagement of the number of journals, institutes and researchers in this area.

Under the influence of the aforesaid backdrop, this paper aspires to fulfil some objectives which are as follows:

1. To present an overview of the progress of research in the area of EI across the globe.

2. To illustrate a collaboration World Map of researchers associated with EI.

3. To demonstrate the most influential papers in the study area.

4. To synthesize the most productive journals in the area of EI.

5. To enumerate the Bibliographic coupling among the journals.

The paper is structured around four main sections where the respective sections are Conceptual framework, Research Methodology, Results and Analysis and lastly, Conclusion.

2. Conceptual Framework

There have been several research works carried out in the domain of Entrepreneurship and Entrepreneurial Intention in particular (Liñán and Fayolle, 2015) but there have been only few of them which have considered a Bibliometric approach towards Entrepreneurial Intention. It is a method which is used for measuring output of academic research by using quantitative tools. Bibliometrics can be well-thought-out to be a defined and recognized systematic and methodical subject, having its application in several fields (Ellegaard and Wallin, 2015). We can say that Bibliometrics is a method for the analysis of bibliographic data which uses the combination of both quantitative and qualitative approach towards data analysis. Such kind of method provides an analysis which is capable of having an influence of scientific publications, not just in terms of quality but also performance-wise, through the aid of bibliometric indicators (Moed, 2009).

The science of Bibliometrics is known for its application in mathematics as well as statistics to quantitatively examine all the indices and then to carry out a detailed evaluation of the inclinations of a specific topic (Lewison and Devey, 1999). In accordance with the main intention of Bibliometric Analysis, this paper focuses on studies about Entrepreneurial Intention, to demonstrate a wholesome synopsis of this arena. Thus, this paper also aims to provide valuable indicators which highlight aspects of related themes, papers, authors, publications, journals, etc. The procedure which has been incorporated is as follows: (a) The aims have

been defined; (b) The techniques which can be used for analysis have been chosen; (c) data has been collected for its analysis; and (d) analysis and findings (Donthu et al, 2021).

3. Research Methodology

As mentioned, in this study, in order to examine the researches carried out on EI, a bibliometric analysis was conducted with the help of data pertaining to studies on EI conducted and published during January, 2013 to September, 2022.

For this study, the wide database of Scopus was chosen to fulfil the objectives. Scopus is enriched with data, with a unique combination comprising of an inclusive database of titles, abstracts and citations which have been curated by experts. It offers a detailed outline of universal research outcome in varied fields of science and technology, area of medical specialization, humanities and Social Sciences.

Scopus can be said to have an advanced degree of distinctiveness than rest of the databases as it has coverage of a greater number of exclusive documents, that the researchers are interested in, when they have to make an appropriate selection of sources of data and information which can be used for further studies (Sánchez et al. 2017).

The search for data in Scopus started with the conditions shown in Table 1. To begin with, the database was fed with appropriate keywords to get the intended data. The keywords were put to get the refined results. The keyword "Entrepreneur* Intent*" was used for the results i.e., in the search bar, a filter had been used for filtering those papers which had the words "entrepreneur* intent*" in at least one of the following: title/abstract/keywords. This search criteria presented 3,005 papers.

Since the bibliometric analysis is being carried out covering a period of a decades of research on Entrepreneurial Intention, the time period from 2013-2022 was entered since the target is to focus on the last ten years. This produced a total number of 2724 papers. Further the relevant subject areas, viz Business Management & Accounting, Social Sciences, Economics, Econometrics & Finance, Arts & Humanities were selected, which reduced the data to a total of 2343 papers.

Table-1 : Systematic Review of Search Conditions Process

Refining Criteria	Refinement	Results after applying the refining criteria
Terms searched in Title, Abstract or Keywords	"Entrepreneur* Intent*"	3005
Year	2013 (January) – 2022 (September)	2724
Subject Area	Business Management & Accounting, Social Sciences, Economics, Econometrics & Finance, Arts & Humanities.	2343
Document type	Article, Review	2032
Publication stage	Final	1907
Source type	Journal	1905
Language	English	1846

Source : Author's self-compiled.

Further, the selection of the document types as "Article" and "Review" left us with 2032 papers. Next, the Publication stage was filtered to "Final" and it resulted in 1907 documents. And finally, the source type and language were limited to "Journal" and "English" respectively and a final set of 1846 documents taken further for the purpose of analysis.

To check if or not the documents obtained after the above procedure were in relation with the topic under study or not, it was important to manually go through the title, keywords, and the entire abstract of all the papers. Subsequently, it was concluded that out of the originally obtained 1846 papers, 90 papers had their focus on topics which were relatively different. Therefore, the remaining 1,756 papers were ultimately taken into consideration.

The VOS Viewer 1.6.18 software had been incorporated for analysis of the co-authorship network, the inter country co-authorship network and the keywords co-occurrences network. Here, VOS stands for Visualisation of Similarities. For creating maps, this program uses the VOS mapping technique (Van Eck and

Waltman, 2007). VOS is a software that can be incorporated for the creation of maps on the basis of the data provided. It is also useful for the visualisation of the maps. For the Collaborative World Map, R Studio, version 4.0. has been used. It is an instrument for conducting bibliometric analysis following the Science Mapping workflow. It is also claimed to be useful in complete Science mapping analysis (Aria and Cuccurullo, 2017).

4. Results and Discussion

In this section, the outcome of the examinations undertaken with the help of the data so collected is presented. The results are divided into the following sections: presenting an overview of the progress of research works in the area of EI across the globe, illustration of a collaboration World Map of researchers in this domain, demonstration of the papers with the highest influence, list of the journals which are found to be utmost productive, top authors in EI, relationship of bibliographically coupled words, bibliographic coupling of journals and keyword co-occurrence network.

4.1 Development of research in the area of Entrepreneurial Intention across the globe

Figure 1 demonstrates the no. of papers published on Entrepreneurial Intention in the past decade, i.e., from 2013-2022. As depicted in the figure, the research in the domain of EI has been witnessing a rapid growth. There has been an impressive rise in the works published specially during 2018-19. The only dip in the figure is being seen in the year 2022 but it must be noted that the data pertaining to the number of papers published in the year 2022 is only up to September, 2022. If the same graph is created till the time frame of December 2022, it may exhibit an upward trend. The year witnessing the highest development in the number of research works published in this area is 2021 with 329 papers and the rate of growth from 2020 to 2021 is 57.31 per cent.

4.2 Country Collaboration

The enumeration of papers or articles which each Nation has issued is a thought-provoking way to understand how a particular subject is being studied across the world (García, et.al, 2022). The corresponding authors belonging to Spain have contributed the highest number of articles (424 articles). The corresponding authors from China were ranked second in the order with 415 articles, followed by USA with the third highest number of articles (412 articles). Table-2 shows the top ten Corresponding authors' country.

Figure-1 : Development of Research in the Area of EI Across the Globe
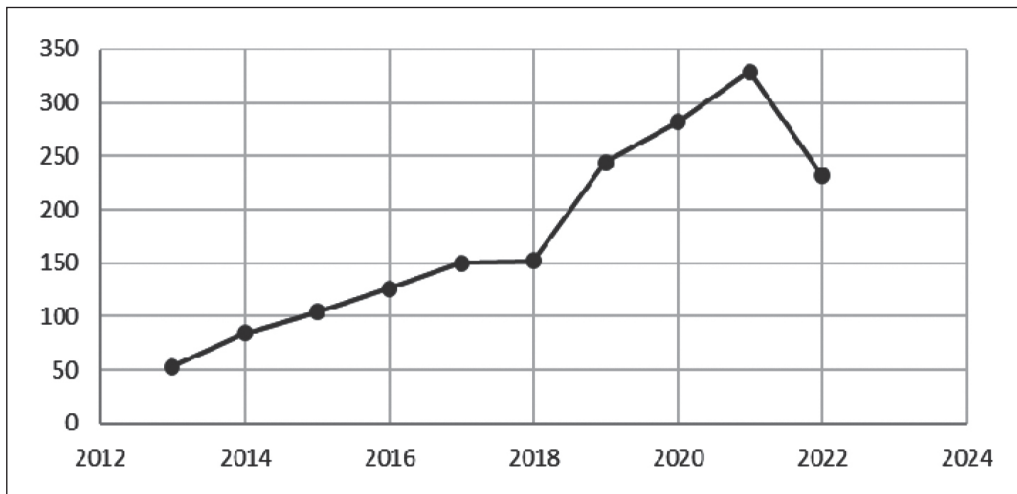
Table-2 : Rank of Top Ten Countries of Corresponding Authors

Rank	Country	Number of Articles
1	SPAIN	424
2	CHINA	415
3	USA	412
4	MALAYSIA	393
5	INDONESIA	321
6	INDIA	227
7	GERMANY	165
8	PAKISTAN	157
9	UK	155
10	PORTUGAL	141

Figure-2 exhibits a World Collaboration map which describes the number of research papers published on Entrepreneurial Intention in the entire world. The blue colour on the map signifies the frequency i.e., the number of publications of each country with intensity. In other words, the more intense the colour, the higher is the number of publications of that Country. The figure also contains red lines which are of different widths. Each red line, as per its edge size, specifies the degree of association or collaboration between authors of different Countries.

Table-3 : Rank of Highest Ten Countries having the Maximum Frequency of Collaboration

Rank	From	To	Frequency
1	CHINA	USA	18
2	CHINA	PAKISTAN	18
3	SPAIN	UNITED KINGDOM	16
4	MALAYSIA	PAKISTAN	14
5	USA	UNITED KINGDOM	13
6	SPAIN	MEXICO	10
7	UNITED KINGDOM	FRANCE	9
8	MALAYSIA	AUSTRALIA	8
9	SPAIN	FRANCE	8
10	CHINA	HONG KONG	7

Source : Author's Self-compiled with the help of the data extracted from the Scopus Database.

It is notable to mention that there is a dynamic collaboration between the authors from China and Spain with the authors from Pakistan, USA, Hongkong, United Kingdom, Mexico and France (Table 3, Figure 2). The International Co-authorship (joint authorship by two or more authors belonging to different Countries) within the period of the Study is 28.19 per cent.

Figure-2 : World Map of Country Collaboration
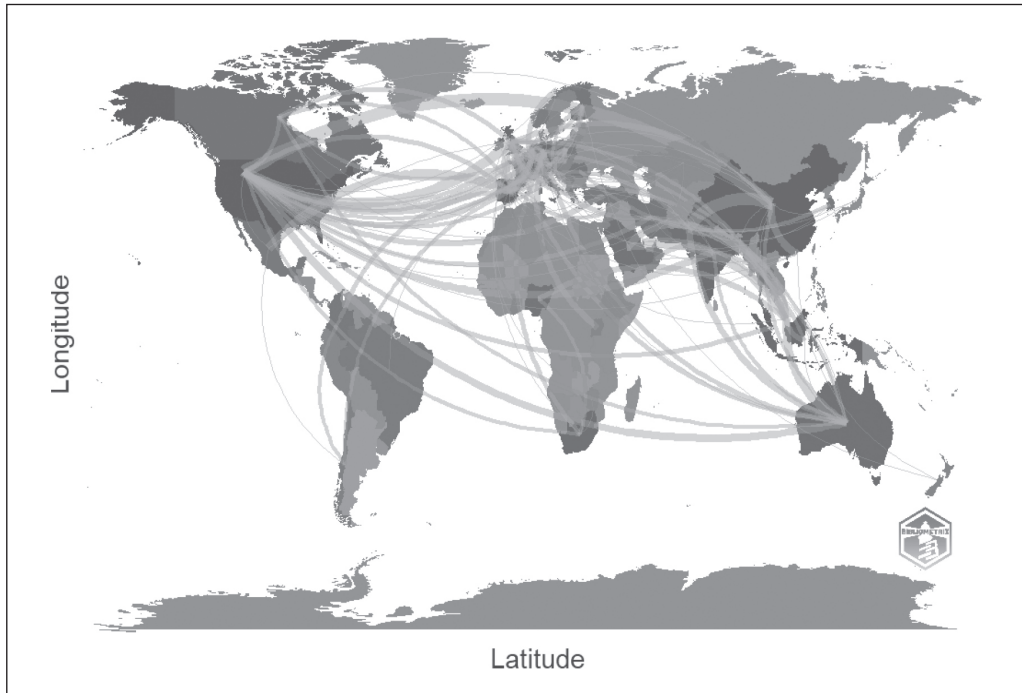
Source : Map created using R Studio software, using the data extracted from the scopus database.

4.3 Most Influential Papers

This section deals with finding out the most influential papers out of the 1756 papers considered under this study. Here, an analysis of those documents was undertaken which have been cited the most. The top ten papers in terms of number of citations were considered for the purpose of analysis which is regarded as the most influential papers in Entrepreneurial Intention (Table 4). The average citation per document was found to be 18.39.

The most cited paper is "The Relationship between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review", (Bae et al., 2014). It has a total of 723 citations. This research focused on drawing an association between Entrepreneurship education and EI and obtained a small yet significant co-relationship between the two. It also carried out an analysis on certain

Table-4 : Most Influential Papers in Terms of Production

Sl. No.	Authors	Title	Source title	Year	T.C.*
1	Bae T.J., Qian S., Miao C., Fiet J.O.	The Relationship Between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review	Entrepreneurship: Theory and Practice	2014	723
2	Kautonen T., van Gelderen M., Fink M.	Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions	Entrepreneurship: Theory and Practice	2015	602
3	Liñán F., Fayolle A.	A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda	International Entrepreneurship and Management Journal	2015	597
4	Schlaegel C., Koenig M.	Determinants of Entrepreneurial Intent: A Meta-Analytic Test and Integration of Competing Models	Entrepreneurship: Theory and Practice	2014	547
5	Fayolle A., Liñán F.	The future of research on entrepreneurial intentions	Journal of Business Research	2014	493
6	Fayolle A., Gailly B.	The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence	Journal of Small Business Management	2015	488

7	Kautonen T., van Gelderen M., Tornikoski E.T.	Predicting entrepreneurial behaviour: A test of the theory of planned behaviour	Applied Economics	2013	352
8	Piperopoulos P., Dimov D.	Burst Bubbles or Build Steam? Entrepreneurship Education, Entrepreneurial Self-Efficacy, and Entrepreneurial Intentions	Journal of Small Business Management	2015	323
9	Rauch A., Hulsink W.	Putting entrepreneurship Education where the intention to Act lies: An investigation into the impact of entrepreneurship education on entrepreneurial behavior	Academy of Management Learning and Education	2015	318
10	Zhang Y., Duysters G., Cloodt M.	The role of entrepreneurship education as a predictor of university students' entrepreneurial intention	International Entrepreneurship and Management Journal	2014	309

*NOTE: T.C. stands for total SCOPUS citations

moderators, namely, the attributes of cultural values, entrepreneurial education and students' differences.

The second most cited paper is "Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions", (Kautonen et. al., 2015) with 602 citations. This study investigated how much significance is associated with the theory of planned behavior for predicting EI. It confers theoretical and methodological matters associated with reviewing the connection between intention and behavior and drafts avenues for further research in this subject.

The third most cited paper with 597 citations is "A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda", (Liñán and Fayolle, 2015). This paper provides a detailed recap of the research works carried out in between the years 2004 and 2013 (inclusive) and showcases a vibrant representation of the different sub-fields under the research on entrepreneurial intention by focusing on two aspects. Initially, it assesses the researches with the help of a citation analysis in order to classify the most important parts of specialization which was a great interest to the academicians. Secondly, the research carried out a thematic analysis with a view to recognize the precise themes that were being researched under all the categories individually.

The fourth most cited paper is "Determinants of Entrepreneurial Intent: A Meta-Analytic Test and Integration of Competing Models", (Schlaegel and Koenig, 2014) having 547 citations. This research carried out a meta-analysis testing with a view to integrate two concepts wherein the integrated model delivered an added illustrative influence of those activities which have an involvement in the progression of Entrepreneurial Intention.

The next most cited paper by Fayolle and Liñán (2014), titled "The future of research on entrepreneurial intentions", has 493 citations. This paper carries an assessment for identifying the knowledge gap in the research works of the future of EI. On the basis of the identifications, future directions for research in this field had been proposed.

The next paper with 488 citations is the sixth most cited paper, "The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence", (Fayolle and Gailly, 2015). This research work is regarding how effective Entrepreneurship education is on the attitude as well as intent of individuals towards Entrepreneurship. It recommends operationalizing the base of EI and its backgrounds with the intention of addressing the related matters.

"Predicting entrepreneurial behaviour: A test of the theory of planned behaviour", (Kautonen et.al., 2013) is the next paper on the list with 352 citations which examined the application of the Theory of Planned Behaviour and the theories related to the behavioural pattern of intent to comprehend the rise of multifaceted economic behaviour like entrepreneurship preceding the commencement of any apparent act.

The eighth most cited document is "Burst Bubbles or Build Steam? Entrepreneurship Education, Entrepreneurial Self-Efficacy, and Entrepreneurial Intentions", (Piperopoulos and Dimov, 2015) having 323 citations. This research focuses on building varied inferences and implications associated with the theories and practices of Entrepreneurial Education.

The next paper in the list is "Putting entrepreneurship Education where the intention to Act lies: An investigation into the impact of entrepreneurship education on entrepreneurial behavior", (Rauch and Hulsink, 2015) with 318 citations. The authors used an experimental design to check the efficiency of entrepreneurship education for developing Entrepreneurial intention, depending upon the theory of planned behavior (TPB).

Finally, Zhang et al. (2014) in their paper entitled "The role of entrepreneurship education as a predictor of university students' entrepreneurial intention" attempted to detect the relationship of Entrepreneurial Intentions with feasibility, past exposure to entrepreneurship and perceived desirability. It has been cited by 309 academicians.

4.4 Most productive journals in the area of Entrepreneurial Intention

Figure 3 shows the top 30 Journals in EI. These top journals account for a total of 796 papers out of the 1756 papers (45.33 per cent) considered for this study. It is observed that out of the top thirty journals, eight belong to the Emerald Group Holdings Ltd. Publishers. Rest of the publishers are Springer, Inderscience Publishers, Routledge, Elsevier, Allied Business Academies, Growing Science, LLC CPC Business Perspectives, Cracow University of Economics, MDPI, SAGE Publications Ltd., Springer New York LLC, SAGE Publications Inc., Springer Science and Business Media Deutschland GmbH, Allied Academies, Primrose Hall Publishing Group, Korea Distribution Science Association (KODISA), American Scientific Publishers, Taylor and Francis Ltd., De Gruyter Open Ltd. and Allied Business Academies. The journal with the maximum papers is Sustainability (Switzerland) with 83 papers on EI which belongs to the MDPI publishers.

Figure-3 : Top 30 Journals in the Area of Entrepreneurial Intention
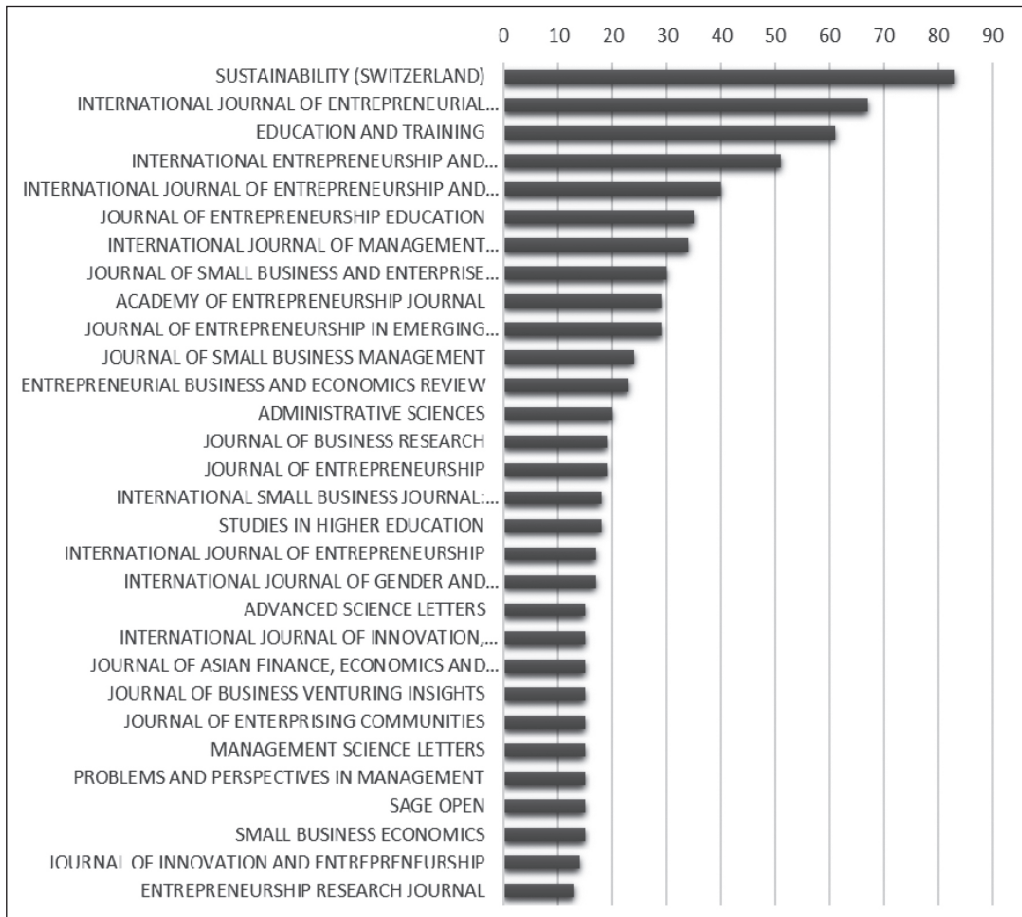
Source : Author's self-compiled with the help of the data extracted from the scopus database.

4.5 Bibliographic coupling among the journals

The Bibliographic coupling between two journals (sources) tends to be more if there are larger number of mutual references amongst their publications (Singh, 2021). Illustration of the Bibliographic coupling of the journals involved in this study is shown in Figure 4. The minimum number of documents published by the concerned journal was chosen to be five and the minimum number of citations was selected as 50. Out of a total of 469 journals, the threshold was met by 55 journals.

Figure-4 : Bibliographic Coupling Among the Journals
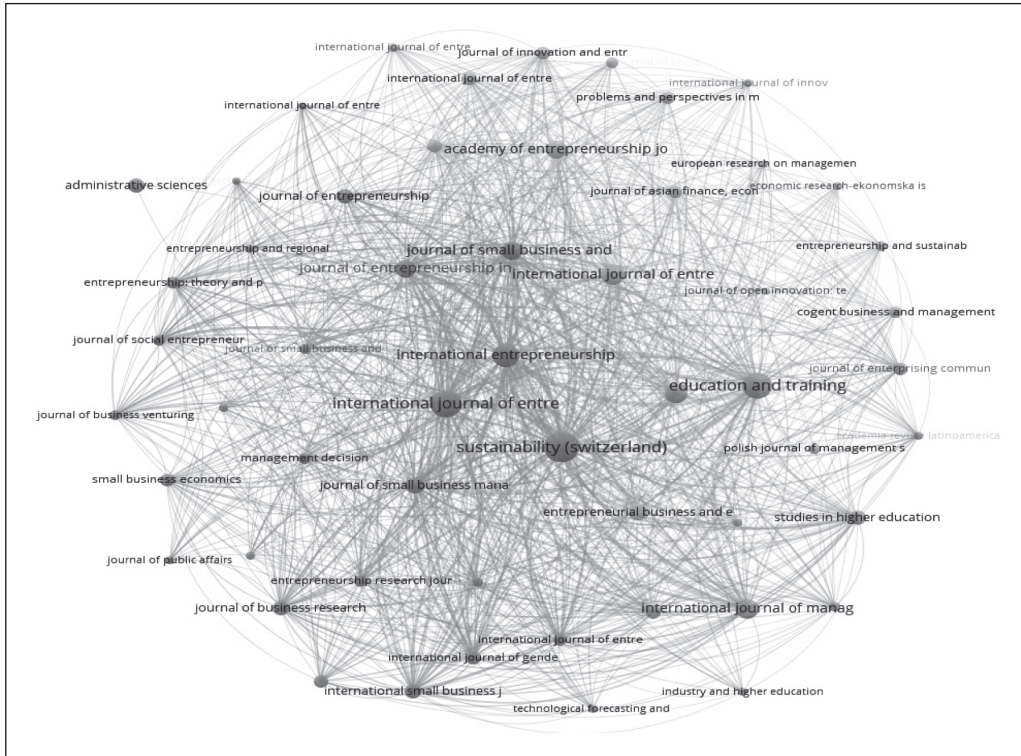
Source : Figure extracted using Vos Viewer.

The sources in the figure are selected based on the total link strength associated with the bibliographic coupling links (van Eck & Waltman, 2020). In the figure, the nodes which are closely placed are the ones that have the publications which have been co-cited together. It ought to be understood that the nodes which are bigger in size have higher number of bibliographic associations with others. A total of three clusters have been obtained. The first cluster (red) has 27 sources or journals, the second cluster (green) has 17 and the third cluster (blue) has 11. It is interesting to note that the biggest node in the red, green and blue cluster are all included in the top 30 journals shown in figure 4. Therefore, the analysis delivers a vivid direction of the journals which are having the greatest relevance in the field of Entrepreneurial Intention and where a researcher can look for the most recent themes and the possible options with a view to publishing associated work.

Figure-5 : Representation of Journals on Basis of the Total Link Strength
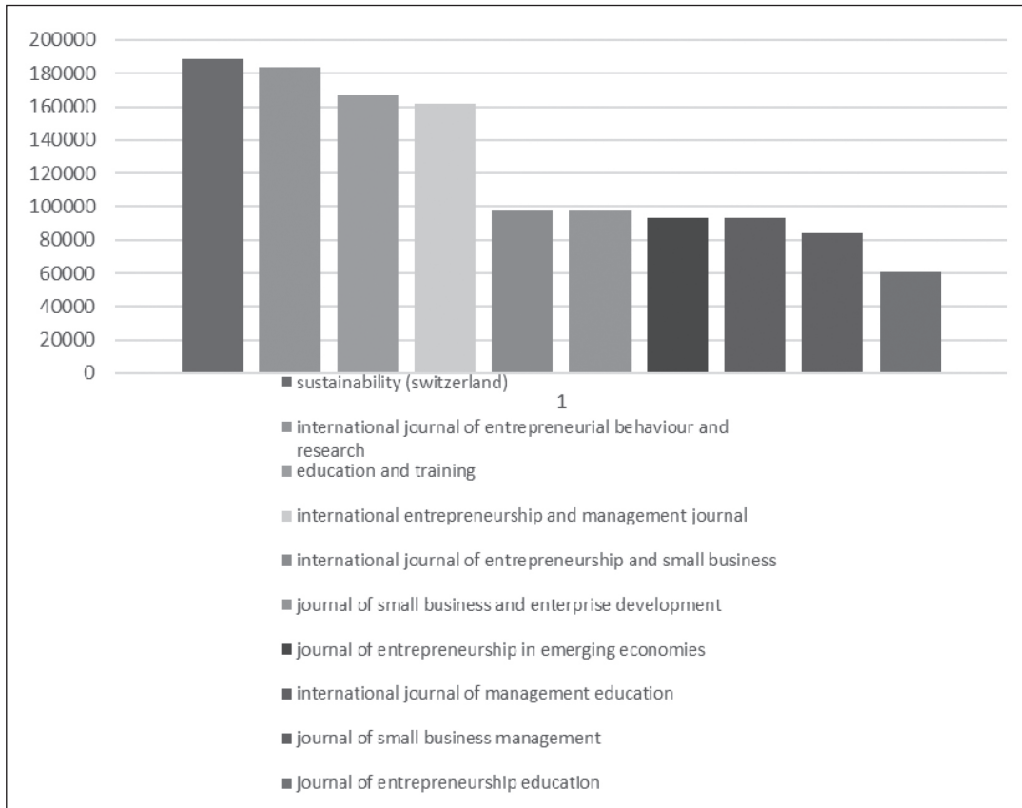
Source : Figure extracted using Vos Viewer.

The total link strength of each journal was calculated with the help of VOSviewer. After this step, the journals with the greatest link strength were selected. The most distinguished journals in this area have been summarized with respect to their total link strengths. This figure shows that in this field, the Journal Sustainability (Switzerland) has the most recognized record for publication which interestingly also has the highest total link strength (188492) and the seventh highest citation (911). This is followed by the International Journal of Entrepreneurial Behaviour and Research with link strength of 183535 and the fourth highest citation (1548). The third highest link strength is of the journal "Education and Training" (166596) and its citation is 1434, which is the fifth highest citation.

It is interesting to note that nine out of ten journals in figure-5 have also been observed in figure-4 which highlights the top 30 journals on EI. "Journal of Small Business Management" is the 11th top most journal.

5. Conclusion

This paper presents a bibliometric approach on the literature of EI for the papers published in the SCOPUS database. The most important purpose of this research was the analysis of the evolution of Entrepreneurial Intention and understand what all has been going around based on the publication's outlook. A total of 2724 papers have been published from January 2013 to September 2022 using the keywords "Entrepreneur* intention*" in the SCOPUS database.

Based on the analysis conducted, out of all the counties, Spain has produced the highest number of research papers. The authors of this Country also have had a noteworthy collaboration with the authors of United Kingdom, Mexico and France. The most influential journal was found to be Sustainability (Switzerland). The most prolific author based on the number of productions is Professor Francisco Linan who also has the highest citation.

This paper has some short comings that can be regarded as suggestions for researches to be carried out in the future. Firstly, only those papers have been considered for this study which were published from January 2013 to September 2022. This investigation can be elongated additionally. Another important limitation is that only the SCOPUS database was considered in this study, leaving behind papers which were published in journals that had been indexed in other databases. For this reason, some of the significant studies might have been missed.

This research is an attempt to act as a contribution for the community of researchers who would have an interest in carrying out studies in this area in the future. Although it is asserted that a detailed analysis following a Bibliometric approach is carried out and presented, there is scope for future study and investigation as well. However, it is believed that the paper is an attempt to illuminate the literature of EI in a new fashion.

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Consumer Preference and Buying Pattern in Rural Markets (A Study with Reference to Fast Moving Consumable Goods in Villupuram District)

K.Krishna Kumar and V.Subasini

Abstract : The rural market is one of the growing concepts in current scenario. It is stimulating buying pattern of village people. Gandhi's saying village is the backbone of our country so, villages are developed all are developed that's why FMCG to acting as a bridge between rural people as well as a rural marketing. The rural people are preferred branded products based upon our economic situations. The banking and microfinance, and self-help groups also helping the rural people in their financial background so, the rural people prefer all types of branded products and their buying pattern also entirely different from literature and illiterate people. This paper explores consumer preference and buying patterns through rural market in Villupuram district.

Keywords : Consumer Preference, Buying Behavior, Rural Marketing, Preferable Goods, Factors Affecting Consumer Preference, FMCG, etc.

Introduction:

The potential of the Indian consumer market lies in the rural areas of the country where the purchasing power of the people are high along with the market share. The majority of the consumer products are sold in the rural areas where it has to reach for its commercial success. The examination of the market share will give clear picture on the working of the consumer minds in the country. The companies has to focus on the rural demand and consmpution pattern to make its products reach each and every corner of the country. The consumer products has huge demand all across the country and has vast potential for the marketing even when the product is from the abroad companies. The process of marketing

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the products in the sachets and mini-quantities were made to have the reach to the rural people and help the people from backward economic groups to have access to all products in the consumer market. The varied process of consumer behaviour will have an huge impact on the consumers but the product success highly depends on understanding the needs of the consumers. The various surveys from major marketing agencies in the country try to find out the needs of the rural consumers based on which the products is produced. The consumer market of the country is largely dependent on the rural area which helps to turnover large quantity of Fast Moving Consumer goods. The consumer products market has been started to segment based on the areas of residence and it has led to vast potential for companies to market their product to make it reach each and every corner of the country. The understanding of the market share based on the rural and urban divide will help the companies target the population based on their needs thereby achieving profitability. The working of the consumer behaviour based on residential status is also taken in account in designing the marketing plan of the product. The product has to meet the needs of the consumers based on their financial affordability will make the product to be running good in the rural markets.

Rural India – An Overview of Market Size

The preferences of the rural and urban market has to be studied carefully to consolidate on the needs based on which the product has to be designed. The Indian consumer market is one of largest market in the work with 83.30 crore people living in the rural areas which has 68.84 percent of the total population based on the census statistics of Indian Government. The rural markets makes the companies to earn big based on satisfying the needs of the rural people. The GDP contribution made by the rural market is more than 50 percent which has made the marketing companies to realise its potential. The contribution of the rural markets towards the agricultural activities, employement opportunities and other allied activities are unaccountable. The population of the rural areas is facing a up-liftment in the income generation, educational status, pattern of consumption and lifestyle up-gradation has made the rural market an hotspot for the producers and marketing companies to market their product in the rural areas. The large potential of the rural markets has the ability to convince even the foreign companies to market their products in rural areas based on the needs.

The government policies on the whole has contributed to the economic upliftment of the consumers in the rural market. They have been provided with

various employment programmes that enables them to earn money for their needs which increase the market potential of rural markets. The rural social security and employement programmes of MNREGA (Mahatma Gandhi National Rural Employment Guarantee Act or MNREGA) has developed the families living in the areas economically. The ability to find employment in the rural areas have increased which has been promoted by the government policies leading to rural consumers having money in their hand which supports them to buy the products.

Statement of the Problems

Even human being possible consumer of goods and services. The need of consumers throughout the world or similar which is a social environment and other forces that very form to place to place lead to differences in buying and consumption pattern. To live well the consumer has to take their purchase decision more independently and make this choice according satisfaction marketer consists a set of rural marketing strategies used the it is more important for changing consumer preference and buying patterns in rural markets in price up new products. The understanding of the rural markets in the country needs lot of expertise and careful analysis before targeting the population. The operation problems in the form of packaging, distribution and logistics pose multiple problems for the producers and marketing companies to make the product reach the rural market. These can be sovled by assessing the preferences of the rural consumers before introducing the product.

Objectives of the Study

➢ To examine preferences of rural consumers towards FMCG products in the select study area.

➢ To assess the usage pattern of the consumers and examine the various factors that a re influencing the rural consumers towards the purchase of FMCG.

➢ To identify the brand awareness and preferences of the rural consumers towards the FMCG products

➢ To evaluate the various level of satisfaction and atttitues of the rural consumers towards FMCG products

➢ To examine influence of buying motive and attitude on the purchase behavior

Hypothesis

The researcher has formulated many hypotheses according to the needs and relevance of the study.

- There is no association between the demographic of rural consumer and their buying pattern

- There is no association between the marketing strategies adopted and consumer preference on FMCG

Research Methodology

The research methodology of the study explains the various scientific steps involved to solve the applied research problem of the study. The study aims to assess the consumer attitude and preferences towards the FMCG products. The study is empirical in nature which has used primary data. The structured interview schedule was used to collect the primary data from the respondents. The percentage analysis, t-test and ANOVA was used as the statistical tools of the study.

Sample Size Determination:

The consumer preference towards select fast moving consumer goods in the eight districts of villupuram, circular, kallakurichi,sankarapuram,ulundurpet, veneer, ginger,thindivanam, china Salem was surveyed for pilot study with 80 respondents. The sample size of the study was fixed based on the responses from the pilot study. The questionnaire was finalized and sample size was fixed using the formula for sample size calculator @ 5 percent levevl which constituted eight districts of thirukoilur, kallakurichi, sankarapuram, ulundurpet, veneer, ginger, thindivanam, china Salem. This areas was treated as different quotas from which the sample was selected using the proportional distribution.

Kim et.al (2006)[1] has published research paper focussing on the multi-channel shopping process which involved rural consumers. The paper focused on the various rural distribution channel through which the consumers makes enquiries of the products and attempt to buy the products. The study also aimed to examine the various differences in purchasing pattern of the food and fiber products based on the nature of stores exsiting in the study area. The consumers were influenced by various ares of time availability, offerings and discount from the local, attachment to the local community, criteria and need for shopping and

Table No .1 : Sample Size

S.No.	Taluks List	Total Population	Ratio	Sample Size
1	Thirukoilur	4,38,254	15.82	127
2	Kallakurichi	4,65,236	16.79	134
3	Sankarapuram	4,07,970	14.73	119
4	Ulundurpet	3,69,357	13.33	107
5	Vanur	1,96,282	7.08	57
6	Gingee	4,22,880	15.26	122
7	Tindivanam	4,46,003	16.09	129
8	Chinnasalem	25,106	0.90	7

Source : Primary Data.

security of financial information. The study has used an survey method in which the sample were selected from the non-metropolitan areas based on the US statistical survy. There were 2,198 participants who have replied with valid answers filling up all questions. The same sample was followed up in the year 2003 were only 847 participants returned the questionnaires with full responses. The analysis revealed that the various household products involving apparel, food or home furnishing products are purchased through online. The multi-channel shoppers have given a lack of response from the community from where they operate.

Mowing (1988)[2] classified the consumer buying behaviour under three categories based on the decision making power, experimental people and influences of the behaviour. The study identified that the category of decision making is having lot of logical steps involved in making the decision before finally deciding on the option of purchases. The experimental people reveals that they purchases their products based on the feelings, connectivity to the product and emotions which fails them to look for need oriented products. The influences of the behaviour make the people to realise that they buy the product based on the environmental pressures around them. The study has putforth classic hierarchy of effects model purchase decsision of consumers.

Building and Michael (1997)[3] investigated effect of the economic and socio economic factors that affects consuming of the goods and services. The study has used the probit model which has examing the various probabilities model

for identifying the consumer behaviour on five types of goods in the name of foods away from home, recreation, medical care, transport and postage. The results of the model revealed that based on the probabilities first three categories of goods are influenced by the demographic and socio-economic factors where as later two categories have less effect when compared to the other three categories.

Verma and Munjal (2003)[4] examined the dominant factors that are influencing the consumers to prefer for making brand choice based on the various qualitative factors that asserts the need satisfaciotn. The loyalty towards the brand is decided by various behavioural influences and cognitive patterns of the customer. The study revealed that the age and socio economic variables are having significant effect on the behaviour and patterns of cognitive signs followed by the consumers

Sun (2004)[5] presented the empirical evidences to relate the lifestyles of the urban and rural consumes and its impact on the economic development. The research paper aims to find out the influence of the rural and urban consumers in designing the marketing mix of the product which is the price, promotion, distribution etc. The study found that there is significant difference among the consumers in the usage of the product based on the urban and rural preferences. The differences in the preferences is attributed to the discriminated needs of the consumers living in the rural and urban areas. The lifestyle difference enables the producers and marketing companies to targe the people based on their needs.

Demographic Details of the Respondents

The demographic details of the respondents explains the socio-economic status of the consumers involved in the based on features of the population. The study has involved various demographic variables like age, gender, educational qualification, occupation, monthly income and family size. This following part explains the various diverse characters based on which the rural consumers involved in the study are classified.

4.1 Personal Profile ofthe Respondents:

In order to ascertain the personal profile of the respondents, the researcher considered the place of residence, gender, age, marital status, educational qualification, occupation, monthly income, types of family and family size which has been considered for frequency distribution to extract the clear shape and

Table No. 2 : Description of the Respondents

S.No	Demographic Factor	Classification	Frequency	Percentage %
1	Gender	Male	356	44.5
		Female	444	55.5
		Total	**800**	**100.0**
2	Age	Below25years	320	40.0
		25 to35 years	307	38.4
		35 to45 years	109	13.6
		Above 45 years	64	8.0
		Total	**800**	**100.0**
3	Marital status	Married	455	56.9
		Unmarried	345	43.1
		Total	**800**	**100.0**
4	Educational qualification	Illiterate	153	19.1
		School level	199	24.9
		UG	66	8.3
		PG	316	39.5
		Professional	66	8.3
		Total	**800**	**100.0**
5	Occupation	Agriculturalist	172	21.5
		Private employee	269	33.6
		Govt.employee	51	6.4
		Professional	133	16.6
		Business	175	21.9
		Total	**800**	**100.0**
6	Monthly income	Below 15,000	590	73.8
		15,001 to 25000	165	20.6
		25,001 and above	45	5.6
		Total	**800**	**100.0**
7	Types of family	Joint family	256	32.0
		Nuclear family	544	68.0
		Total	**800**	**100.0**
8	Family size	up to 2 members	132	16.5
		3-5 members	527	65.9
		above 5 members	141	17.6
		Total	**800**	**100.0**

(Source : Primary Data)

arrangement of the sample units.The following frequency distribution clearly reveals the segmentation of the consumer preference and buying pattern in rural marketing with respective demographic factors of the respondents.

Gender:

The above table 4.1 reveals that 44.5% of the respondents are male and 55.5% of the respondents are female.

Age:

From the above frequency distribution using simple percentage analysis it is found that the sample unit dominated by 40% are rural consumers of the age group below 25 years, 38.4% of respondents belong to the age group of 25 to 35 years, 13.6% represents belong to the age group between 35 to 45 years and the minimum of 8% live in age group above mentioned here

Marital Status:

The table also depicts the maximum of 56.9% respondents is married and 43.1% respondents are unmarried people from rural residential.

Educational Qualification:

Maximum 39.5% of the respondents have completed their PG degree and minimum 8.3% of respondents have completed their UG degree, while 24.9% of respondents have only completed their schooling and 19.1% are illiterate people and 8.3% of the respondents are professionals.

Occupation:

While 21.5% of the respondents are agriculturalists and 36.6% of the respondents are private employees and 6.4% of the respondents are government employees and 16.6% of the respondents are professionals and 21.9% of the respondents are entrepreneurs.

Monthly Income:

It is noticeable that a maximum of 73.8% of the respondents comes under the monthly income category of below 15,000 and a minimum 5.6 % of the respondents belong to the monthly income category of 25001 and above 20.6% of the respondents come under the monthly income group of 15001 to 25000 in rural residential.

Types of Family:

Maximum of 68% of the respondents belong to nuclear family and remaining 32% of respondents are under joint family.

Family Size :

It is apparent from the above table that maximum 65.9% of the respondents family size is between 3 – 5 members, 17.6% of the respondents are in the family size of 5 members and minimum 16.5% of the respondent's family size is above 5 members.

Frequency Distribution Various Consumers Buying the FMCG Products

The following table clearly reveals the various consumers buying the FMCG products used by the customers in Villupuram district based on their awareness, trust and interest on the various products.

Table No.3 : Frequency Distribution Various Consumers using the FMCG Products

Brand Names	Frequency	Percentage
Brand Name		
Dove	49	6.1
Lux	155	19.4
Medimix	12	1.5
Cinthol	89	11.1
Santoor	31	3.9
Lifeboy	108	13.3
Pears	17	2.0
Mysore sandal	40	4.4
Hamam	299	37.4
Total	800	100.0
Toothpaste		
Colgate	370	46.3
Close up	127	15.9
Daburmeswak	74	9.3
Oral b	72	9.0
Sensodyne	13	1.6
Pepsodent	86	10.8

(Contd...)

Himalaya dental	41	4.9
Dantkanti	17	2.1
Total	**800**	**100.0**
Shampoo		
Himalaya herbal	16	2.0
Clinic plus	239	29.9
Head shoulder	52	6.5
Sunsilk	155	19.4
Pantene	107	13.4
Dove	231	28.9
Total	**800**	**100.0**
Washing Soap		
Nirma	51	6.4
Surf excel	334	41.8
Wheel	40	5.0
Ariel	180	22.5
Tide	30	3.8
Rin	147	18.4
Henko	18	1.3
Total	**800**	**100.0**
Toilet Cleaner		
Harbic	564	70.5
Demox	144	18.0
Lyro	22	2.8
Clear man	40	4.4
Lorence	30	3.8
Total	**800**	**100.0**
Floor Cleaner		
Lizol	671	83.9
Easy magic	104	13.0

Warexo	25	1.6
Total	**800**	**100.0**
Biscuit		
Britannia	475	59.4
Sun feast	113	14.1
Parle g	131	16.4
Unibic	40	5.0
True	41	5.1
Total	**800**	**100.0**
Soft Drinks		
Pepsi	84	10.5
Coca cola	46	5.8
Sprite	33	4.1
Thumps up	33	4.1
Fanta	43	5.3
Maaza	60	7.5
Mirinda	43	5.4
7 up	131	16.4
Slice	56	7.0
Bovonto	271	33.9
Total	**800**	**100.0**
Health Drinks		
Horlicks	410	51.2
Boost	200	25.0
Bournvita	83	10.4
Maltova	50	5.3
Complan	27	3.4
Amul	30	3.8
Total	**800**	**100.0**

Source : Primary data.

Bathing Soap

From the above table 4.2 is clearly shows that 6.1% of the respondents are using dove, 19.4% of the respondents prefer lux, 1.5% of the respondents choice medimix, 11.1% of the respondents prefer cinthol, 3.9% of the respondents are using santoor, 0.3% of the respondents Prefer Margo and Dettol, 13.3 % of the respondents choice is lifeboy, 0.1% of the respondents like liril 2000, 2.0% of the respondents prefer pears, 4.4% of the respondents like mysore sandal, 37.4% of the respondents are using hamam, 4% of the respondents like Himalaya soap.

Tooth Paste

From the above table it is depicted that 46.3% of the respondents choice is colgate, 15.9% of the respondents like is close up, 9.3% of the respondents prefer meswak, 9.0% of the respondents choice is oral b 1.6% of the respondents likes sensodyne 10.8% of the respondents prefer pepsodent. 4.9% of the respondents choice id Himalaya dental, 0.1% of the respondents preference vicco and dabour bobool, 2.1% of the respondnts dantkanti.

The above table exhibits that 2.0% of the respondents are using Himalaya herbal, 29.9% of the respondents prefer clinic plus, 6.5% of the respondents choice is head and shoulder, 19.4% of the respondents prefer sunsilk, 13.4% of the respondents like pantene,28.9% of the respondents prefer the dove shampoo.

Washing Soap/Washing Powder

From the above table it is revealed that 6.4% of the respondents are using nirma, 41.8% of the respondents choice is surf excel 5.0% of the respondents are using wheel, 22.5% of the respondents prefer is ariel, 3.8% of the respondents likes tide, 18.4% of the respondents choice rin, 1.0% the respondents prefer is sunlight.

Toilet Cleaner

The above table denotes that 70.5% of the respondents are using harbic, 18.0% of the respondents like domax, 2.8 of the respondents prefer lyro, 0.6% of the respondents are using vaxh, 4.4% of the respondents like clearman, 3.8% of the respondents choice is lorence.

Floor Cleaner

From the above table is revealed that 83.9% of the respondents are using lizol, 13.0% of the respondents like easy magic, 1.6% of the respondents choice is warexo, 0.8% of the respondents prefer lyro and euro.

Biscuits

The above table denotes that 59.4% of the respondents like Britannia, 14.1% of the respondents prefer sunfeast, 16.4% of the respondents like parleg, 5.0% of the respondents prefer unibic, 5.1% of the respondents like true biscuits.

Soft Drinks

The above table exhibits that 10.5% of the respondents are using Pepsi, 5.8% of the respondents like coca cola, 4.1% of the respondents prefer spirit and thumps up, 0.1% of the respondents are like Lima, 5.3% of the respondent's choice Fanta.

Health Drinks

From the table 51.2% of the respondents are using Horlicks, 25.0% of the respondents likes boost, 10.4% of the respondents prefer bournvita, 5.3% of the respondent's choice is maltova, 1.0% of the respondents likes viva, 3.4% of the respondents are using Complan, 3.8% of the respondents prefer email.

How Often Do You Buy The FMCG:

Fast Moving Consumer Goods (or) Consumer Packaged Goods (CPG) are the products that are sold quickly. The profit margin of the FMCG varies often according to the consumer's desire. The respondents purchase their products or goods through online in recent times.

Table No.4 : How Often Do You Buy the FMCG ?

Particulars	Frequency	Percentage
Weekly once	226	28.2
once in fortnight	122	15.3
monthly once	452	56.5
Total	800	100.0

Source : Primary Data.

From the above table it is clear that 56.5 % of the respondents purchase their products once in a month.28.2 % of the respondents purchase their products weekly once. The remaining 15.3% of the respondents purchase their products once in a fortnight.

Table No.5 : Consumer Preference FMCG Products in Rural Areas

S.No.	Consumer Preference in Rural Markets	Yes/no	Frequency	Percentage %
1	Always buy the branded goods	Yes	717	89.6
		No	83	10.4
		Total	**800**	**100.0**
2	I know the particular products	Yes	610	76.3
		No	190	23.8
		Total	**800**	**100.0**
3	The advertisement motivated me FMCG product	Yes	317	39.6
		No	483	60.4
		Total	**800**	**100.0**
4	Opinion from friends and family	Yes	453	56.6
		No	347	43.4
		Total	**800**	**100.0**
5	I want to stick with on a particular brand	Yes	632	79.0
		No	168	21.0
		Total	**800**	**100.0**
6	Availability of goods in rural areas	Yes	657	82.1
		No	143	17.9
		Total	800	100.0

Source : Primary Data

The above table depicts that 89.6% of the respondents buy only branded products. Were as, remaining 10.4% of the respondents buy ordinary products. From the table above it is clear that 76.3% of the respondents know the particulars of the products they buy. Remaining 23.8% of the respondents does not any particulars of the products they buy.

The above table portraits that 60.4% of the respondents buy their products based on the advertisement telecasted on TV. The rest of 39.6% of the respondents buy products not based on advertisement shown in television.

The Above table states that 56.6% of the respondents stick to the opinions from/ given by their friends and family. Nearly 43.4% of the respondents buy products on their judgement.

The table above depicts that 79.0% of the respondents use to stick only with particular brand products. Remaining 21% of the respondents use alternative brands.

From the table above it is clear that 82.1% of the respondents purchase goods only based ontheavailability in rural areas. The rest of 17.9% of people may go for other sources apart from rural areas.

Influence of demographic factors in the purchase decision of the consumer attribute with fmcg product :

The researcher considered the purchase decision factor of consumer attribute FMCG products bathing soap, tooth paste, shampoo, washing powder ,soft drinks ,health drinks, floor cleaner, biscuit, toilet cleaner as depend variable and the demographic variables such gender, age, marital status, education qualification, occupation, monthly income, types of family, and family size purchase decision and influence of purchase in depended factors ascertain influence of demographic factors on various factors of purchase decision. For the purpose one way ANOVA has been applied and result shown in the following table.

Table No.6 : Influence of Consumer Attributes on Demographic Factors

Demographic factor			Highest mean value	F – value	Sig
Bathing soap	Gender	Male	4.4452	16.088	0.000
	Age	25 to 35 years	4.4104	15.446	0.000
	Marital status	Married	4.3132	.009	.923
	Educational qualification	Professional	4.7045	39.785	0.000
	Occupation	Government employee	4.5000	27.795	0.000
	Monthly income	15001 to 25000	4.5748	10.903	0.000
	Types of family	Joint family	4.5859	40.697	0.000
	Family size	Above 5 members	4.5426	7.369	0.001

(Contd...)

Tooth paste	Gender	Male	4.4298	12.663	0.000
	Age	25 to 35 years	4.4218	12.804	0.000
	Marital status	Married	4.3209	0.43	.835
	Educational qualification	Professional	4.6970	38.240	0.000
	Occupation	Professional	4.8947	25.472	0.000
	Monthly income	15001 to 25000	4.5758	11.516	0.000
	Types of family	Joint family	4.5859	44.580	0.000
	Family size	Above 5 members	4.5603	8.976	0.000
Shampoo	Gender	Male	4.2907	4.516	0.034
	Age	25 to 35 years	4.4088	62.962	0.000
	Marital status	Unmarried	4.2348	0.94	0.759
	Educational qualification	School level	4.6106	31.244	0.000
	Occupation	professional	4.9398	62.057	0.000
	Monthly income	Below 15000	4.3297	46.650	0.000
	Types of family	Nuclear family	4.2252	.000	.992
	Family size	3 to 5 members	4.2799	4.023	0.018
Washing powder	Gender	Male	4.4340	15.548	0.000
	Age	Below 25 years	4.3969	14.475	0.000
	Marital status	Married	4.3044	0.20	.887
	Educational qualification	professional	4.7045	36.716	0.000
	Occupation	professional	4.5000	25.988	0.000
	Monthly income	15001 to 25000	4.5515	9.728	0.000

(Contd...)

	Types of family	Joint family	4.5859	43.184	0.000
	Family size	Above 5 members	4.5142	6.164	0.002
Floor cleaner	Gender	Male	4.4396	6.939	0.000
	Age	Below 25 years	4.5594	42.348	0.000
	Marital status	Married	4.4637	19.995	0.000
	Educational qualification	U g	4.7576	24.723	0.000
	Occupation	professionals	4.9173	65.311	0.000
	Monthly income	Below 15000	4.4839	225.690	0.000
	Types of family	Nuclear family	4.4081	6.425	0.111
	Family size	3-5 members	4.3947	1.872	0.155
Biscuit	Gender	Male	4.4452	19.467	0.000
	Age	Below 25 years	4.3969	16.185	0.000
	Marital status	Married	4.2967	.000	0.986
	Educational qualification	professionals	4.7045	38.720	0.000
	Occupation	professionals	4.9361	29.619	0.000
	Monthly income	15001 to 25000	4.5303	8.530	0.000
	Types of family	Joint family	4.5723	40.217	0.000
	Family size	Above 5 members	4.4894	5.179	0.006

(Contd...)

Soft drinks	Gender	Male	4.4354	14.622	0.000
	Age	Below 25 years	4.4156	15.825	0.000
	Marital status	married	4.3088	.000	0.999
	Educational qualification	professional	4.6439	39.877	0.000
	Occupation	professional	4.9361	29.464	0.000
	Monthly income	15001to25000	4.5525	9.450	0.000
	Types of family	Joint family	4.5859	42.524	0.000
	Family size	Above 5 members	4.5284	7.091	0.000
Health drinks	Gender	male	4.4452	16.088	0.000
	Age	25to35 years	4.4104	15.446	0.000
	Marital status	married	4.3132	.009	0.923
	Educational qualification	professional	4.7045	39.785	0.000
	Occupation	professional	4.9361	27.795	0.000
	Monthly income	15001to25000	4.5758	10.903	0.000
	Types of family	Joint family	4.5859	40.697	0.000
	Family size	Above 5 members	4.5426	7.369	0.000
Toilet cleaner	Gender	Male	4.4452	.076	0.782
	Age	Below 25 years	4.5391	23.987	0.000
	Marital status	married	4.5407	33.324	0.000
	Educational qualification	Illiterate	4.5850	15.069	0.000
	Occupation	professionals	4.8947	83.728	0.000
	Monthly income	15001to25000	4.5212	113.359	0.000
	Types of family	Joint family	4.4980	5.143	0.000
	Family size	Above 5 members	4.6064	9.733	0.000

Bathing Soap :

From the above table it is revealed that as far as bathing soap of the respondents is considered a higher mean value of gender (4.4452), 25to35 years (4.4104), married (4.3132), professionals (4.7045), government employee (4.5000), 15001 to 25000 (4.5748), joint family (4.5859), above 5 members (4.5426)

The bathing soap associated with the demographic factor on male (F value =16.088, P value =0.000), 25 to 35 years (F value = 15.446, P value = 0.000) professionals (F value = 39.785, P value= 0.000), government employee (F value = 27.795, P value= 0.000) 15001 to 25000 (F= value =10.903, P value= 0.000) joint family (F value=40.697, P value = 0.000) above 5 members (F value = 7.369, P value = 0.001)

The bathing soap not associated with the demographic factor there are married (F value = 0.09, p value = 0.923) at 5% level.

Toothpaste:

From the above table it is revealed that as far as bathing soap of the respondents is considered a higher mean value of male (4.4298), 25 to 35 years (4.4218), married (4.3209), professionals (4.6970), professional (4.8947), 15001 to 25000 (4.5758), joint family (4.5859), above 5

The tooth paste not associated with the demographic factor there are married (F value = 0.043 p value = 0.835) at 5% level.

Shampoo:

From the above table it is revealed that as far as shampoo of the respondents is considered a higher mean value of male (4.2907), 25 to 35 years (4.4088), unmarried (4.2348), school level (4.6106), professional (4.9398), below 15000 (4.3297), the nuclear family (4.2252), 3 to 5 members (4.2799)

The shampoo associated with the demographic factor in 25 to 35 years (F value =62.962, P value =0.000), school level (F value = 31.244, P value = 0.000) professionals (F value = 62.057, P value= 0.000), below 15000 (F value = 4.3297, P value= 0.000)

The shampoo not associated with the demographic factor there are male (F value= 4.516 P value=0.034 unmarried (F value = 0.94 p value = 0.759) nuclear family (F value = 0.000 p value = 0.992) 3 to 5 members (F value = 4.023 p value = 0.018) at 5% level.

Washing Powder :

From the above table revealed that as far washing powder of the respondent is considered highest mean value of male (4.4340) below 25 years (4.3969) married (4.3044) professional (4.7045) professional (4.5000) 15001 to 25000 (4.5515) joint family (4.5859) above 5 members (4.5142).

The washing powder associated with the demographic factor male (F value =15.548, P value =0.000), below 25 years (F value = 14.475, P value = 0.000), professional (F value =36.716, P value = 0.000), professional (F value = 25.988, P value = 0.000), 15001 to 25000 (F value = 9.728, P value =0.000), joint family (F value = 43.184, P value =0.000), above 5 members (F value =6.164, P value =0.002).

The washing powder not associated with the demographic factor there are married (F value = 0.020, P value = 0.887) at 5% level.

Soft Drinks:

From the above table revealed that as far soft drinks of the respondent is considered highest mean value of male (4.4354) below 25 years (4.4156) married (4.3088) professional (4.6439) professional (4.9361) 15001 to 25000 (4.5525) joint family (4.5859) above 5 members (4.5284)

The soft drinks associated with the demographic factor male(F value = 14.622, P value = 0.000) below 25 years (F value =15.825, P value =0.000) professional (F value =39.877, P value =0.000) professional (F value =29.464, P value =0.000) 15001 to 25000 (F value =9.450, P value =0.000) joint family (F value =42.524, P value =0.000) above 5 members (F value =7.091, P value =0.000)

They're soft drinks no associated with the demographic factor married (F value =0.000, P value =0.999) at 5% level.

Health Drinks :

From the above table revealed that as far health drinks of the respondents is considered highest mean value of male (4.4452) 25 to 35 years (4.4104) professional (4.7045) professional (4.9361) 15001 to 25000 (4.5758) joint family (4.5859) above 5 members (4.5426).

The health drinks associated with the demographic factor male (F value =16.088, P value =0.000) 25 to 35 years (F value =15.825, P value =0.000) professional

(F value =39.785, P value =0.000) professional (F value =27.795, P value =0.000) 15001 to 25000 (F value =10.903, P value =0.000) joint family (F value =40.697, P value =0.000) above 5 members (F value =7.369, P value =0.000)

There is no associated with health drinks and demographic factor married (F value = 0.009, P value =0.923) at 5% level.

Floor Cleaner:

From the above table revealed that as far health drinks of the respondents is considered highest mean value of male (4.4396) 25 to 35 years (4.5594) married (4.4637) ug (4.7576) below 15000 (4.4839).

The floor cleaner associated with the demographic factor male (F value =6.939, P value =0.000) below 25 years (F value =42.348, P value =0.000) married (F value =19.995, P value =0.000) u g (F value =24.723, P value =0.000) professional (F value =65.311, P value =0.000) below 15000 (F value =25.690, P value =0.000)

There is no associated with floor cleaner and demographic factor nuclear family(F value =6.425, P value =0.111)3-5 years (F value =1.872, P value =0.155) at 5%level.

Biscuit:

From the above table revealed that as far health drinks of the respondents is considered highest mean value of male (4.4452) below 25 years (4.3969) married (4.2967) professional (4.7075) professional (4.9361) 15001 to 25000 (4.5303) joint family (4.5723) above 5 members (4.4894).

The biscuit associated with demographic factor male (F value =19467, P value =0.000) below 25 years (F value =16.185, P value =0.000) professional (F value =38.720, P value =0.000) professional (F value =29.619, P value =0.000) 15001 to 25000 (F value =8.530, P value =0.000) joint family (F value =40.217, P value =0.000) above 5 members (F value =5.179, P value =0.006).

There is no associated with biscuit and demographic factor married (F value =0.000, P value =0.986) at 5% level.

Toilet Cleaner:

From the above depicts that as for toilet cleaner male (4.4452) below 25 years (4.5391) married (4.5407) illiterate (4.5850) professional (4.8947) 15001 to 25000 (4.5212) joint family (4.4980) above 5 members (4.6064).

The toilet cleaner associated with demographic factor below 25 years (F value =23.987, P value =0.000) married (F value =33.324, P value =0.000) illiterate (F value =15.069, P value =0.000) professional (F value =83.728, P value =0.000) 15001 to 25000 (F value =113.359, P value =0.000) joint family (F value =5.143, P value =0.000) Above 5 members (F value =9.733, P value =0.000) There is no associated with toilet cleaner and demographic factor male (F value =0.076, P value =0.782) at 5% level.

Suggestions

1. The most of the rural consumers had been purchased frequently with the same product; they don't change any other products.

2. The consumers were preferred in human being living product they not interested in buying the sophisticated products.

3. In my research point of view the majority of the respondents buying only a moderate level of satisfaction and other product preference. So, the rural consumers were buying patterns change in future full-fledged.

4. The majority of the consumers were buying only the heritage product they are not interested in modern type of product. Therefore, the rural consumer to change the buying attitude at recent trends.

5. In this research, the majority of the consumers are female males not interested in this type of purchasing. Hence, in future stimulate the male consumers to interest to purchasing the product.

6. The post graduates students were purchasing through rural markets in frequently, but other than illiterate people, school level and UG level consumers not deeply interested in buying rural market.

Conclusion

The rural market is one of the interesting recent trends of the rural consumers, it is the tool of the merging between manufacturer and consumer. In the rural segment majority of the consumers has there each consumer separate buying pattern such children, male, female, and senior citizen also. The FMCG fast moving consumer goods also to help the rural consumers buying the right product in right time in the right place of rural segment. So, it is very useful one and aware about the different products at in rural places. In Villupuram district covers the majority of the villages and hill stations like covering hills, their people

to consume different products in the scope of rural markets. It is one of the exposures of rural consumers; they are buying different products in day by day. They had been frequently purchased purchase in heredity product, but they are not buying in recent day products, particularly the younger generation people not like that rural market. So, rural market to covers the all types of consumers and as well as buying habits.

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Harnessing the Potential of ICT : An Adoption Analysis of Tribal Entrepreneurs

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Abstract : *The Digital revolution initiated a paradigm shift in entrepreneurial activities leading to new business models, reduced transaction costs, and quicker access to information beyond the boundaries ensuring efficiency and productivity in business operations. However tribal entrepreneurs are left behind in digital adoption resulting in the digital divide. Therefore, the study focusses on digital inclusion of tribal entrepreneurs by assessing their ingress to internet connections and digital devices, knowledge and use of digital devices in business. The study used UTAUT to investigate empirically the variables that influenced behaviour intention of tribal entrepreneurs. Partial Least Squares structure equation modeling (PLS-SEM- 3) was employed to evaluate the model. According to the study's findings, performance expectations had the most influence on the behaviour intentions to use mobile applications, followed by effort expectations and facilitating conditions. Conversely, social influence played an insignificant predictor of tribal entrepreneurs' behavioral intention towards adoption of technology. Additionally, a majority of entrepreneurs have mobile data access to their smartphones and the internet. Knowledge of entrepreneurs in using smart phones are higher when compared to computer. Ultimately, the outcomes of the research contribute towards the creation of a successful policy and approach for increase in the application of technology by tribal entrepreneurs.*

Keywords : Digital Divide, Tribal Entrepreneurs, ICT Adoption, UTAUT, PLS-SEM, Technology Acceptance.

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1. Introduction

Technological advancements have marked a swift in adoption of technologies (Srai j Lorentz, 2019).). The development in the information age is measured by the investment towards Information and communication technology (ICT), and transforms into mainstay for the socio-economic progress of the nation. The development and deployment of ICT have now become a necessity for business operations (Okundaye et al., 2019). In accordance with technological advancements, ICT has triggered entrepreneurial practices (Veldhoven & Vanthienen, 2021). It gave connectivity, speed in the business processing and the digital transformation of suppliers and customers (Morgan & Page, 2008).

But this era is now witnessing real apartheid between those who can access and use ICT with those who are not able to access creating digital divide. For sustainable development and to achieve millennium development goals, knowledge and use of computers and internet is vital. Unequal access to digital services leads to Economic, Social and Political imbalances contributing to migration of indigenous populations (Ramya, 2022). This societal imbalance can be evident in the tribal regions which has become one of the obstacles for their development. Hence bridging digital divide among tribals is critical for the progress of the nation.

2. Literature Review

The information revolution brought a paradigm shift in traditional practices of entrepreneurship. In this regard, ICT with entrepreneurship is the tool for high-quality development of the nation to achieve sustainable development goals (Huang et al., 2021). It creates employment opportunities, promotes access to basic services and facilitates the marketing of products and services .Further it contributes to the development of rural and indigenous communities of developing countries (Yusuf et al., 2001). Technologies are effective in uplifting tribal livelihood (Kumar & Bansal, 2013). Despite the notable progress ,collective wave of technology move in different speed among indigenous communities creating digital divide (Hilbert 2015). Geographical isolation, internet connectivity, reduced speed of internet, lack of awareness of suitable technology (Muriithi et al., 2016), limited infrastructure, lack of technical know-how, lower capacity utilization, low understanding of marketing and pricing techniques (Singh et al., 2017) were the key factors limiting the adoption of information technology.

The sustainability of tribal entrepreneurs in this digital era has become a question mark. The tribal hamlets are facing digital exclusion of poor access to the internet and basic digital infrastructure (Tanberk & Cooper 2021). Low literacy rate and digital skills make the condition worse (Albar & Hoque, 2017). The interventions from government and non-governmental organizations helps to narrowing the digital gap (Parids et al., 2019) among the tribal entrepreneurs. However, they are least benefitted due to defects in the proper execution of policies and schemes.

The digital presence of tribal entrepreneurs cannot be ignored as their culture and ethnicity in making tribal products and services have huge demand in the world which positively affect the GDP of the nation and in this regard, the current study will assist in knowing the access to and knowledge in using the internet and digital devices along with the identification of key factor which hinders tribal entrepreneurs to adopt digitalization. The Unified Theory of Acceptance and Use of Technology (UTAUT) model by Venkatesh et al., (2003) is adopted to find the access and utilization of ICT among tribal entrepreneurs as it combines numerous theories for computer use prediction in information system studies and incorporates social and psychological concepts to create a singular, comprehensive model. The key constructs of UTAUT Model include Performance Expectancy (PE), Effort Expectancy (EE), Social Expectancy (SE), and Facilitating Condition which act as four key dimensions of user behavioral intention and usage.

3. Research Gap

Past research studies focused on tribal entrepreneurship development, challenges and opportunities of tribal entrepreneurship, tribal entrepreneurial marketing but a dearth of studies concentrated on ICT access and its utilization on tribal society and only a handful studies focused on digital inclusion of tribal entrepreneurs, So to close this gap, technology acceptance models and theories considering the individual and their choices that they make over whether to accept or reject a technology Straub (2009) was referred.

4. Objectives of the Study

➢   To study the respondent's access to the internet and basic digital devices for business

➢   To analyze the knowledge of entrepreneurs in the usage of basic digital devices.

➢ To understand the purpose of using ICT in business operations by the respondents

➢ To examine the influence of Performance expectancy, Effort Expectancy, Social Influence and facilitating conditions on adoption of information and communication technology in business.

5. Research Methodology

The locale of the study is Pudur Village of Attapadi Taluk in Palakkad District. According to census 2011, Palakkad district has the third largest tribal hamlet in Kerala with 10.10 per cent population after Wayanad and Idukki. Ages ago Attapadi was the only native Tribes of Kerala and it constitute three villages Agali ,pudur and sholayur (2011 census report) The tribal communities of Attapadi include Irula, Muduga and Kurumba. Though Kerala is having a record of the first digital state and the first digital tribal colony, (Nedumkayam) in India. Attapadi in Palakkad district lacks behind in digital disruptions.

The information sought for the study has been collected by adopting purposive sampling technique. Primary Data has been collected from 77 tribal entrepreneurs from Pudur village who got basic computer training from Jan Shikshan Samsthan (JSS) which comes under the Ministry of Skill Development and Entrepreneruship. Journal publications, magazines and other authorized website of Government of India is used as secondary data for the study.

To gather the pertinent data, a systematic questionnaire was created. Data on the uptake of e-commerce by female entrepreneurs was gathered using the interview approach. The 5 point Likert scale, which ranges from Strongly Agree to Strongly Disagree, was used to measure each variable. The questionnaire was divided into three sections: section 1 collected information on the respondents' demographic characteristics; section 2 measured the extent of ICT adoption; and section 3 collected information on the UTAUT Model.

6. Data analysis and Discussion

6.1 Descriptive Analysis

Socio-economic profile of the sample tribal entrepreneurs shows that majority of them were male belongs to the age group of 25-35 years and most of them (46%) are graduates. It is undeniable fact that more than half of the respondents

are earning income below 10000. For livelihood they depend on farm and non-farm activities. The farm activity includes Agriculture, horticulture along with the collection of forest resources which include herbal medicinal plants like parsley, lemon balm, thyme, rosemary, lavender, lagundi etc., timber wood, honey, various fragrant oils. They are also engaged in skill based Non-farm activities as artisans producing hand woven tribal clothes, metal craft, bamboo and cane products, Longpi pottery, tribal jewellery, gifts and novelties. Few of them are involved in Small scale businesses like tailoring units, catering units, and production and marketing of pickles, papad, spices powder etc.

Table-I : Internet Access of Entrepreneurs

Internet access	Frequency	Percentage
Telephone line	5	5
Cable	3	3
Satellite	-	-
Mobile data	96	96
Wifi		
Full coverage	12	12
Partial Coverage	6	6

Source : Primary data.
Multiple responses

Mobile technology with wireless networking is becoming a necessary tool for business communication. and the study shows that all the respondents are having smart phones and more than half of them use mobile data to access internet (Table I and Table II). A very few use a telephone line, cable and Wi-Fi. Digital devices like computers, modem router, scanner, digital camera/video are used by a small portion of the sample. Some of the entrepreneurs have access to data collection devices like point of sales/bar code readers as they are into small-scale business.

Tribal entrepreneurs were given first hand training on basic computer and smart phone skills like identifying input output devices, operating knowledge in

Table-II : Access to Digital Devices

Digital devices	Frequency	Percentage
Smart phone	96	100
Computer/Laptop	5	6
Scanner	3	4
Camera/Video	5	6
Printer	10	13
Data collection devices	12	15
Modem/router etc	3	4

Source : Primary data.

Multiple responses

MS Office, MS excel, data storage, browsing over internet, Google search, e-mail, popular applications like WhatsApp business, Facebook etc., accordingly their knowledge level is measured. It is understood that Majority of the respondents are having medium knowledge in using computer as they have got basic computer training from JSS. A few are highly versed in computer as they are running computer café and dealing in online marketing and sales. A very few have low knowledge in using computer. Knowledge of smart phones among them are higher when compared to computer. More than half of the entrepreneurs are highly skilled in using smart phones. Most of them have medium knowledge in using smart phone and rest a few are not confident in using smart phone.

Table-III : Level of Knowledge in using Basic Digital Devices in Business

Basic Digital Devices	Low Per cent		Medium Per cent		HighPer cent	
Computer	10	13	59	69	8	10
Smart Phone	3	4	37	42	37	45

Information technologies helps the tribal entrepreneurs in processing sales online, marketing of goods and services, building customer contact, data management and payment system .Tribal Cooperative marketing development Federation (TRIFED), an initiative launched by Ministry of tribal affairs in connection with UNICEF and WHO to process their business operations online. They help the entrepreneurs to shift their focus from mere collection of forest products to value added high utility products, but it is not used by more than half of the entrepreneurs as they are unaware about the scheme. Table IV outlays that tribal entrepreneurs are aware and using Instant messaging apps like WhatsApp and Facebook and online payment applications like PayTM, G-Pay, phone-pay as a result of pandemic effect. But it is undeniable fact that more than half of the Tribal entrepreneurs are still not ready to adopt ICT for their business development**.**

Table-IV : Usage of ICT Applications among Tribal Entrepreneurs for the Business Development

Purpose of Use of Internet in Business	Frequency	Percentage
Order and delivery	8	8
Marketing of goods and services	4	4
Customer support and services	6	6
Data base Management	5	5
Accounting	7	7
Instant messaging	30	31
Payment System	27	28
Information about goods or services	5	5
Information from government organization	1	1
Telephoning over the internet/VoIP/or using video conferencing	5	5
I don't use internet for my business	35	36

Source : Primary data.

Multiple responses

6.2 Measurement Model

Cronbach's Alpha and Composite Reliability were used to gauge internal reliability (CR), shown in (Table VI). The values are reliable because all CA and CR values are above 0.70. (Hair et al., 2019). Convergent validity is confirmed by measuring all the critical components that have "average variance extracted" AVE significantly higher than the 0.50 threshold, signaling the further assessment of the study. (Hair et al., 2022).

Figure-1 : Path Diagram
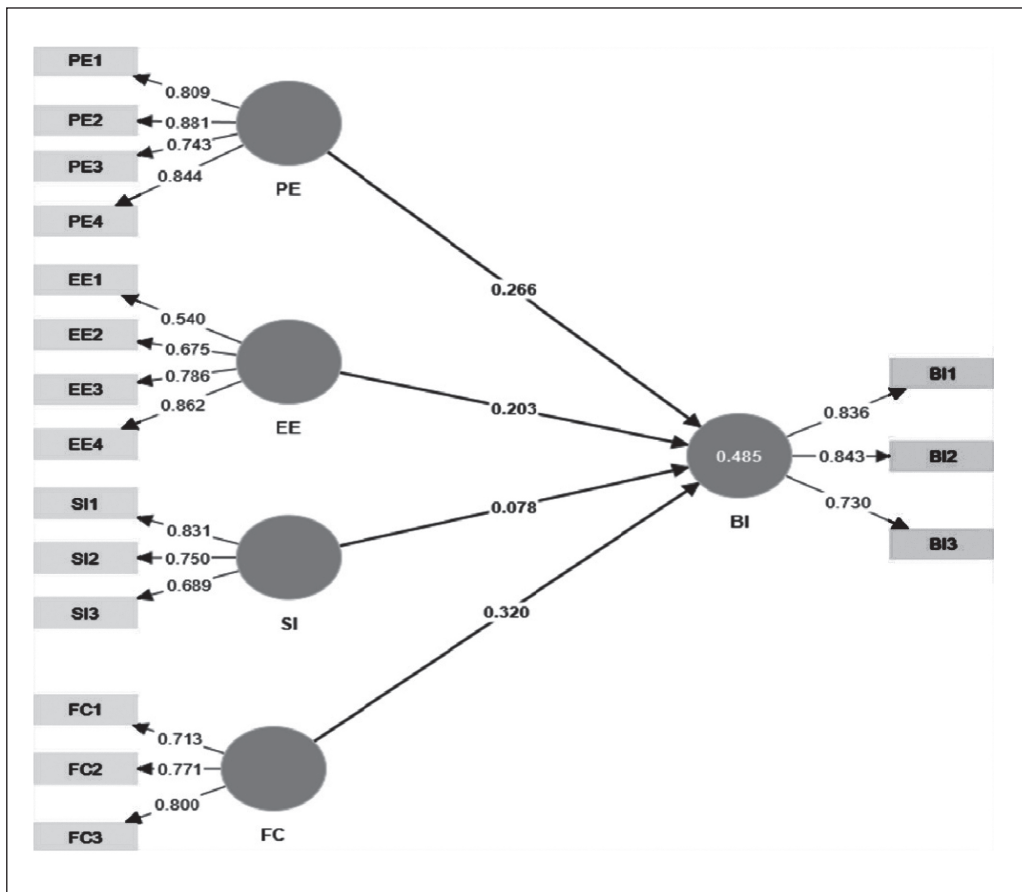
Source : Primary Data.

Table-VI : The Measurement Model Assessment for Adoption of ICT

CONSTRUCTS	FL	Rho_A	C R	AVE
Performance Expectancy	0.809	0.839	0.892	0.674
	0.881			
	0.743			
	0.844			
Effort Expectancy	0.550	0.776	0.813	0.527
	0.675			
	0.786			
	0.862			
Facilitating Condition	0.713	0.645	0.806	0.581
	0.771			
	0.800			
Social Influence	0.831	0.634	0.802	0.576
	0.750			
	0.689			
Behavioural Intention	0.836	0.726	0.846	0.647
	0.843			
	0.730			

FL Factor Loadings, CR composite reliability, AVE average variance extracted.

Table VII shows Fornell-Larcker's (1981) discriminant validity where the root of AVE of the constructs on the diagonal, is greater than the inter-item correlation of constructs. As a result, the uniqueness of each construct was proven.

6.3 Structural Model

Structural model assessments (Table VIII) evaluated the relation between the constructs and their predictive values (Hair et al., 2019a). 5000 bootstraps were carried out which was required to determine the p-values for the hypothesis of the study (Hair et al., 2020b).

Table-VII : Fornell – Larcker Discriminant Validity

	BI	EE	FC	PE	SI
BI	0.805				
EE	0.461	**0.726**			
FC	0.615	0.397	**0.762**		
PE	0.580	0.376	0.606	**0.821**	
SI	0.526	0.396	0.680	0.562	**0.759**

Source : Authors Calculation.

"Variance Inflation Factor" VIF is determined in the structural inner model by measuring the predictive variables (formative measurement model) separately and the study found that computed values fell significantly below the threshold, at less than 3.33 (Diamantopoulos et al., 2008).

Table-VIII : Structural Model Assessment

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
H1- PE -> BI	0.266	0.258	0.115	2.311	0.021	Accepted
H2- EE -> BI	0.203	0.211	0.090	2.249	0.025	Accepted
H3- FC -> BI	0.320	0.330	0.122	2.620	0.009	Accepted
H4- SI -> BI	0.078	0.084	0.129	0.608	0.543	Rejected

Based on the literature search four hypothesis were framed and the structural model of independent and dependent constructs is shown in Figure-4. The findings of the study Table VIII, indicates that Facilitating condition is the most influencing construct (pd"0.05) of entrepreneur's towards adoption of ICT and thus H2 is accepted. Facilitating condition aided in ICT adoption as the tribal entrepreneur's were given access to digital devices at affordable rates sponsored by NGO and Digi hub company, digital skill training programmes were arranged by JSS to get updated with digital knowledge, Government intervention towards free broadband access and uninterrupted power supply for a longer duration. The influence of performance expectancy on behaviour intention is the analysis's

second most important conclusion, It has a significant impact on behaviour intention towards ICT adoption. (pd"0.05), so H3 is accepted. According to various studies social influence positively impacts behaviour intention of entrepreneurs (Hsu et al., 2022; Nassar et al., 2019; Bozan et al., 2016;) however, the study showed that the t value, 0.608, is greater than 0.00, indicating the rejection of H3.Based on the hypothesis testing results it can be concluded that performance and effort expectancy along with facilitating condition has a positive and significant impact on the adoption of information and communication technology and whereas the social influence has a negligible effect on tribal entrepreneur's adoption of technology. Similarly, R^2 value of behaviour intention is 0.48 and is in the acceptable range (Gessier, 1975).

Discussion

Digital inclusion of tribal entrepreneurs ease the demand for tribal products and services which succour their livelihood, the current study shows that the adoption of digital among tribal entrepreneurs is influenced by hindering and motivating factors. The key road block factor to adopt digital among entrepreneurs is the shortage of digital skills and talent (Sherino et al.,2021). The ability to use and adopt digital depends on the literacy level of tribals. Worku (2010) argues that low literacy reduces the ability to adopt to digital. Albar and Hoque (2017) asserts to the fact that there is a significant relationship exist between knowledge on using digital devices and adoption of ICT. The other factors which impede towards the adoption of ICT is supported with past studies awareness on suitable technology according to their need and use in business (Musingafi and Zebron 2019) internet access and subscription (Tanberk and Cooper 2021), cultural resistance to change (Erumban et,.al 2006), disruption in electricity (Kyobe 2011), lack of digital infrastructure India exclusion report 2016, network coverage and the internet penetration rate depends on the geographical location (Chen & Wellman 2004). Tribal deficit in access to computer is evident but they have more access to smart phones. Howard and Morris 2019 claims that strong reliance on smart phones among indigenous communities are getting stronger (Parids et al., 2019) hint at the role of government especially local government in adoption of information and communication technology. The key motivating factor to adopt ICT among tribal entrepreneurs is the training and development. It confers to the study contributed by Fulantelli and Allegra (2003) suggests that continuous training on digital skills can positively contribute to the adoption of ICT. Although the digital Inclusion is expensive, it will definitely transcend the benefits from digital transformation. Conceptually

digitalization creates value to the products and services of tribal entrepreneurs beyond geographical boundaries and which in turn stimulate digital tribal entrepreneurship to sustain in this digital economy.

Conclusion

Entrepreneurs rely on digital solutions to capture, organize, store, share and use data to reach customers beyond the boundaries. The study demonstrated the digital inclusion of tribal entrepreneurs by analyzing the hindering and motivating factors towards the adoption of ICT. Based on the finding it is evident that tribals entrepreneurial activities are less dependent on ICT. Considering the shortage of digital skills and digital infrastructure among tribal entrepreneurs, which are the key elements of digitalization has to be initiated by government and local agencies to accelerate digitalization. Winschiers-Theophilus et al 2010, recommend on adopting participative and collaborative approach in implementing digital schemes as it enables the tribal communities to ensure their needs and concerns on going digital and thus attaining the united nations goal on sustainability (Escolar & Canet 2022).

Future Research Direction

The conspicuous limitation of this study refers to its demographic and specific sample populace, since only tribal entrepreneurs of Pudur village in Attapadi is considered who have got basic digital training from Jan shikshan Samsthan. A broader investigation among tribal entrepreneurs in the entire Attapadi region would have contributed to much deeper understanding about the access and use of digital devices in business. It would initiate in implementation of ICT related schemes and policies and building ICT environment favorable to tribal entrepreneurs. A comparative analysis in terms of gender and different tribal hamlets (Kurumba.irulas etc) would bring about much deeper understanding on digital inclusion. The current study is purely quantitative; application of user acceptance would have resulted in legitimacy.

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A Study on Customer Buying Intention towards Online Shopping of Cosmetic Products
(With Special Reference to Meerut)

FARIYA AND ASHU SAINI

Abstract : In India, beauty and personal care market is expanding rapidly. Simultaneously, the number of online shoppers is also increasing due to various reasons like internet access, convenience, lower price, discount/ offer, variety, easy returns, and door delivery and so on. There are numerous E-Commerce platforms that offer a large number of cosmetic brands both national and international. That's why people are exploring online shopping websites rather than traditional shops. The thought process to do this study is to simply examine the customer buying intention towards online shopping of cosmetic products in Meerut. Since, Meerut is the second biggest city in National Capital Region after Delhi *(About district)*. Therefore, it is important to know the demographic characteristic, buying pattern of online cosmetic buyers and the factors that influence the customer's attitude towards online shopping of cosmetic products. Some selected online shopping websites like Flipkart, Amazon, Myntra, Nykka, Purplle and Meesho have included in this study. With the help of convenience sampling technique, 150 online cosmetic shoppers were selected and the data were collected using structured online questionnaire. Descriptive statistics is used to interpret the results. The results interpreted that advertising through social media or internet influences the most to make purchase. The key motivating factor to buy cosmetic products online is special discount and offers. The outcome of the analysis suggest that the companies should focus on social media advertising more, as people are more attractive towards social media nowadays.

Keywords : Cosmetic Products, Buying Intention, Online Shopping, Social Media Advertising and Meerut.

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Introduction

The proportion of individuals taking advantage of the internet for shopping is growing gradually. Consequently, spotting a reaction for what reason shoppers buy products through internet in contrary to traditional shopping has proved to be a serious matter of concern for sellers. According to (Ye, 2012) internet marketing has great considerable impact on customer buying behavior. Automations have alternated the method by which users gather details about the product. The majority of the business concerns get adapted him from conventional tangible structure to internet setting (Cockayne, 2016). Electronic Commerce trading may boost the web purchase intents through ascertained to enhance buyer's faith. Moreover, Electronic Commerce trades would lay down endeavors via minimize the identified risk, on account of presumed relevance of risk deduction in internet buying intent (Xu-Priour, 2014).

Buying Intention

Buying intention is determined as every customer's tendency to acquire a commodity or service. This is the aggregate of perceptive, intuitive and physiological attitude in relation to acquisition, buy, or make use of the product, services, objects and certain manners. The conception is straightforward, yet in reality, it is not as absolute as it determines. Intent may not be attributed to agree or not agree response to the question if someone plans to purchase a product.

Cosmetic Products

The cosmetic products are applied to intensify the look of human beings. In the present state of affairs the Indian cosmetic industry has an outstanding capability on account of expanding consumer's appeal in their appearances. Cosmetic products are categorized as Skincare products, Hair care products, Makeup products, Perfumes and deodorants, Personal and Hygiene.

Statement of the Problem

The rapid advancement of the online network has enabled customers to purchase various categories of product and services from online-sellers and search details on internet. Internet platforms provide benefits for customers as well as sellers hence provide a productive system for sellers to persuade its desired public. While buying products through online platform, customers usually look forward to exceptional quality of service since it is more convenient to compare the prices

of the products on internet. In order to improve the potency of web stores, extensive knowledge of internet buying pattern and components that influence customers to purchase cosmetics via internet will be conferred preference. The primary cause why internet purchases intents is of extensive importance for a company because it is strong forecaster of true purchase behaviors (Dhanapal, 2015).

Questions of Research

The subsequent research questions are looked into by the study:

1. Who are the online cosmetic products customers with reference to demography?

2. What are the purchase patterns of the customers?

3. What are the factors that influence customer's online shopping attitude?

Research Gap

This study continue to an improved understanding of how shopper's approach internet platforms for buying cosmetic products. The literature review that has been done reveals that there are extensive studies being done in the area of online shopping context. So far, most of the researches have concentrated on online shopping in common and just concerning top selling product categories like electronics, Clothes, Accessories, etc. Although there are several researches being conducted concerning the cosmetic industry, hardly any have concerned online shopping of cosmetic products. Also no study has been done in Meerut City.

Literature Review

Cao, Xinyu Jason, Zhiyi Xu, & Frank Douma (2012) revealed that online shopping is an alternative for in-store purchasing for people who does not appreciate traditional shopping. It won't be possible to significantly cut physical shopping trips until a sizable number of consumers purchase online.

Renny, S. G. (2013) evaluated five factors to gauge people's attitudes about online airline ticketing services. These are: (1) buying tickets online is a nice idea; (2) buying tickets online is a smart concept; (3) buying tickets online is enjoyable; (4) buying tickets online is a fantastic idea; and (5) buying tickets online is an interesting idea.

Chen & Tung (2014) studied Subjective norms are defined as one's perspective of what others around them, such as parents, friends, and co-workers believe. When we have preconceived notions about how other people would respond to specific activities, these norms have an impact on us. Hence, these standards influence consumers' online purchase intents by influencing how they view their online shopping choices.

Aliyar, Shirin & Mutambalathe, Clara (2015) continued from already-established theories about how characteristics like trust, perceived risk, shopping delight, and website design excellence relate to customers' intentions to make online purchases. Online purchase intent is strongly correlated with trust, shopping pleasure, and site design. The intention to make an online purchase is not negatively correlated with the independent variable perceived risk. Shopping pleasure appears to predict online purchase intention more than the other independent variables, whereas trust is the second best indicator and site design quality appears to predict online purchase intention the least of the three independent variables that were statistically significant.

Paul, Modi, & Patel (2016) asserted that the idea of reason action is utilized to reframe buyers' intents. In the study of consumer behavior, this hypothesis has been given due consideration and recognition for its importance. This model provides a relatively modest framework for categorizing where and how to target customer behavioral change attempts in addition to appearing to predict consumer purchase intentions and behavior.

Sutanto, Monica Adhelia & Aprianingsih, Atik (2016) studied review quality, review quantity; review valence and source credibility has significant and positive effect on buying intention. By observing the capacity of internet shopper reviews on buying intent, the luxurious cosmetic concerns can think about internet shopper reviews like a budget-friendly marketing approach that can boost sales.

Chiou, et al. (2017) stated buying intention is the intention to buy a specific good within a predetermined time frame. Moreover, customers' intent to buy from electronic web-based firms influences their online buying intents. Customers are more likely to buy products from online stores when they are aware of e-commerce companies.

Oberoi, Parul & Oberoi, Prerna (2018) studied that the majority of consumers of cosmetics are between the age group of 15 to 25. Comparatively, a big share of

cosmetic product purchases was made by women. The factors like Income, Price, Prior Experience, Trust, Influence and Motivation were identified by the factor analysis. According to the ANOVA test trust is the most significant factor. Another significant conclusion of the study is the fact that each of the variables, including the cultural, social, and psychological variables, has a unique impact on every person. It has been observed that social variables significantly affect consumers' choices while making cosmetic product purchases.

Shaukat, Ambreen & Kamran, Asif et.el (2019) described in their research, customers buying products from online realize monetary cost comparative worth is greater than other measures of material value. It assumes internet shoppers are still making use of this channel in view of its value focus of attention, not as a result of enjoyment or to receive social etiquette from others. End result of the evaluation suggests that value insight and the forebears of material value monitoring were quite exceptional linking the buyer's intents for internet platforms.

Goel, Sonam & Sharma, Anupam (2020) described in their research; the perception of the consumers for a brand influences the buying intentions. Variables specifically brand concept, brand adherence, product expertise, product association, product worth and product features were considered as factors of customers' buying intentions and were observed to have a positive association with buying intentions.

Yadav, Archana & Kumar Abhishek (2020) concluded that most of the customers are identified that online shopping is a better alternative than physical buy and most of the customers are satisfied with their online purchase transactions. Customers can have access their internet at their home, office and college. Most of the customers purchase electronics', clothes, and accessories and so on. The most disturbing barrier of online shopping was customers need to give their credit card information and not watch the products themselves. Consumers admit with the assertion that internet buying is costly as compare to physical purchases; the delivery of the products requires extra time and the shoppers experience difficulties when doing internet shopping.

Javed, Tasha (2021) concluded that presence of a higher number of youth in the age group of 18-33, educated customers and lower and middle class customers of cosmetic products justify the actual diversity of Indian cosmetic markets. Senior age group customers do not prefer to buy products online and some youngsters do too. Watching T.V. advertisements and the internet has a great

impact on customers. Majority of customers prefer discounts, buy 1 get 1 and cash back offers in urban and semi urban areas. Majority of customers do not buy products on recommendation of beauty professionals and Doctors, few of them were in touch with them. They buy the products by their own choice. Need of improvement in cosmetic products of Himalaya, L'Oreal, and Nivea.

Mustika, Drajad Veda & Wahyudi, Lilik (2022) demonstrate that while the quality of a website does not directly influence buying intention, it does boost perceived enjoyment and perceived trust, which both directly and indirectly affect online purchase intention. The quality of beauty e-commerce websites was also found using a structural equation model as a high-level construct with 6 first-level dimensions. Information task-fitness, interactivity, response time, appeal of the display, appeal of the visuals, and inventiveness are the order dimensions. In terms of each dimension's relative relevance, visual appeal has been determined to be the most crucial, followed by display appeal quality, information task-fitness, inventiveness, interactivity, and response time.

Research Methodology

This study is exploratory and descriptive and has adopted the following methodology to arrive a conclusion.

Population

To find out the consumer purchase intention towards online shopping of cosmetic products; the demographics that have been chosen were constrained to Meerut on account of several limitations. The research's overall target populations were both male and female cosmetic customers.

Sample Size

The population sample size was 150 respondents (Male and Female). The sample respondents included College/University students, spouses, working employees and the businessmen of Meerut city.

Sampling Method

The sampling method used in the study was opportunity sampling also called (convenience sampling), it is a type of non-probability sampling. Convenience sampling is a rapid and economical method for getting response from the respondents. Self-directed Google questionnaires were circulated to the respondents for data collection.

Research Methodology

The research method implemented in this study was quantitative. Quantitative analysis is associated with collecting data and transforming it in a number form for distinct statistical analysis. The data was analyzed with the help of descriptive statistics. SPSS software is used for multiple response analysis for effective results.

Objectives of the Study

1. To outline the demographic characteristics of online cosmetic buyers of Meerut district.

2. To understand the online buying pattern of cosmetic buyers.

3. To determine the factors influencing the customer attitude towards online shopping of cosmetic products in Meerut district.

Data Analysis and Interpretation

Objective-1 : To outline the demographic characteristics of online cosmetic buyers of Meerut district.

Table 1 : Age-wise Distribution of the Respondents

Age	Number	Percentage	Valid Percentage	Cumulative Percentage
20 or below	48	32.0	32.0	32.0
21-30	**81**	**54.0**	**54.0**	**86.0**
31-40	15	10.0	10.0	96.0
41 or above	6	4.0	4.0	100.0
Total	150	100.0	100.0	

Source : Primary Data.

In the above table, it is clear that among the total 150 respondents of this study, 32% (48 respondents) belong to the age group "20 and below", 54% (81 respondents) belong to the age group of 21-30, 10% (15 respondents) belong to the age group of 31-40 and remaining 4% (6 respondents) are above 40 years of age. Among 150 online cosmetic buyers, 32%, (48) respondents are teenagers, 54% (81) respondents are youngsters, 10% (15) respondents are middle agers and the rest 4% (6) respondents are upper middle age and old age people.

Table-1.1 : Gender-wise Distribution of the Respondents

Gender	Number	Percentage	Valid Percentage	Cumulative Percentage
Male	51	34.0	34.0	34.0
Female	**99**	**66.0**	**66.0**	**100.0**
Total	150	100.0	100.0	

Source : Primary Data.

The above table outline that 66% (99 respondents) out of the total 150 respondents are female and the remaining 34% (51 respondents) are male.

Table-1.2 : Area of Ethnicity of the Respondents

Area	Number	Percentage	Valid Percentage	Cumulative Percentage
Urban	65	43.3	43.3	43.3
Semi-Urban	**68**	**45.3**	**45.3**	**88.7**
Rural	17	11.3	11.3	100.0
Total	150	100.0	100.0	

Source : Primary Data.

As per the data shows, about 43.3% (65 respondents) out of the total 150 respondents are living in an urban area, 45.3% (68 respondents) reside in a semi urban area and 11.3% (17 respondents) reside in rural area respectively.

Table-1.3 : Marital Status of the Respondents

Marital Status	Number	Percentage	Valid Percentage	Cumulative Percentage
Unmarried	106	70.7	70.7	70.7
Married	44	29.3	29.3	100.0
Total	150	100.0	100.0	

Source : Primary Data.

The Table 1.3 portrays that, 70.7% are unmarried (106 respondents) and 29.3% are married (44 respondents) out of total 150 respondents. Unmarried respondents are observed to overlook the online purchase of cosmetic products.

Table-1.4 : Educational Qualification of the Respondents

Education	Number	Percentage	Valid Percentage	Cumulative Percentage
High-school	6	4.0	4.0	4.0
Intermediate	27	18.0	18.0	22.0
Graduate	54	36.0	36.0	58.0
Post-Graduate	**57**	**38.0**	**38.0**	**96.0**
Doctoral	6	4.0	4.0	100.0
Total	150	100.0	100.0	

Source : Primary Data.

From Table 1.4, it is evident that 4% (6) have an educational qualification of High school, 18% (27) are Intermediate, 36% (54) possess a U.G degree, and 38% (57) possess a P.G or 4% (6) have doctoral degree among the total respondents. In the above analysis, Post-Graduate customers are found to dominate the online purchase.

Table-1.5 : Occupation of the Respondents

Occupation	Number	Percentage	Valid Percentage	Cumulative Percentage
Student	**80**	**53.3**	**53.3**	**53.3**
Private Employee	35	23.3	23.3	76.7
Government Employee	4	2.7	2.7	79.3
Business	12	8.0	8.0	87.3
Housewife	19	12.7	12.7	100.0
Total	150	100.0	100.0	

Source : Primary Data.

About 53.3% (80) of the total respondents come under the student category whereas, 23.3% (35) are working in a private organization, 2.7% (4) are from government organization, 8% (12) are from business category and the remaining 12.7% (19) are housewife.

Table-1.6 : Level of Income of the Respondents

Income	Number	Percentage	Valid Percentage	Cumulative Percentage
30000 or below	49	32.7	32.7	32.7
31000-40000	24	16.0	16.0	48.7
41000-50000	25	16.7	16.7	65.3
51000 or above	**52**	**34.7**	**34.7**	**100.0**
Total	150	100.0	100.0	

Source : Primary Data.

Among the total respondents, 32.7% (49) of the respondent whose income level is Rs.30,000 or below, followed by 16% (24) of respondent whose income falls between Rs.31,000 and Rs.40,000, 16.7% (25) with income level between Rs.41,000 and Rs.50,000 and 34.7% (52) respondents with income level of above Rs.51,000 have participated in the study.

Objective-2 : To understand the online buying pattern of cosmetic buyers.

Table-2 : Frequency of Usage of Cosmetics by the Respondents

Frequency of usage of cosmetics

Usage	Number	Percentage	Valid Percentage	Cumulative Percentage
Everyday	31	20.7	20.7	20.7
Occasionally	42	28.0	28.0	48.7
As per need	**70**	**46.7**	**46.7**	**95.3**
Never	7	4.7	4.7	100.0
Total	150	100.0	100.0	

Source : Primary Data.

The above table presents the percentage of frequency of usage of cosmetics by the respondents. 20.7% (31) of the total respondents use cosmetics every day, followed by 28% (42) customers' use occasionally. Further, 46.7% (70) of the respondents use as per their need, 4.7% (7) never use cosmetics.

Table-2.1 : Frequency of Online Purchase by the Respondents

Frequency of online purchase

Online purchase	Number	Percentage	Valid Percentage	Cumulative Percentage
More than once per week	1	0.7	0.7	0.7
Once per week	3	2.0	2.0	2.7
Monthly	24	16.0	16.0	18.7
Once or twice in a year	20	13.3	13.3	32.0
As per requirement	**102**	**68.0**	**68.0**	**100.0**
Total	150	100.0	100.0	

Source : Primary Data.

The above table describes the percentage of frequency of online buys made by the respondents. Only 0.7% (1) of the total respondents makes online purchases more than once per week, followed by 2% (3) purchases once per week. Further, 16% (24) of the respondents buy monthly, 13.3% (20) buy once or twice in a year and 68% (102) do make online purchases as per their requirement.

Table-2.2 : Average Amount Spent in Online Purchase Per Month by the Respondents

Average amount spent in online purchase per month

Amount	Number	Percentage	Valid Percentage	Cumulative Percentage
Rs.500 or below	97	64.7	64.7	64.7
Rs.501-1000	28	18.7	18.7	83.3
1001-1500	11	7.3	7.3	90.7
1501-2000	8	5.3	5.3	96.0
2001 or above	6	4.0	4.0	100.0
Total	150	100.0	100.0	

Source : Primary Data.

The above table indicates the average amount spent by the respondents per month in online shopping of cosmetic products. Most of the respondents i.e., about 64.7% spend an average amount of Rs.500 or below, followed by 18.7% spending an average of Rs.501-1000, 7.3% spending an average of Rs.1001-1500, 5.3% with an average spending of Rs.1501- 2000, 4% with an average of Rs.2001 or above.

Table-2.3 : Favorite Shopping Site of the Respondents

Favorite shopping site

Website	Number	Percentage	Valid Percentage	Cumulative Percentage
Flipkart	28	18.7	18.7	18.7
Amazon	**49**	**32.7**	**32.7**	**51.3**
Myntra	12	8.0	8.0	59.3
Purplle	12	8.0	8.0	67.3
Meesho	19	12.7	12.7	80.0
Nykka	30	20.0	20.0	100.0
Total	150	100.0	100.0	

Source : Primary Data.

Most of the total respondents preferred Amazon as their favorite shopping site with 32.7% followed by Nykka with 20%, Flipkart with 18.7%, Meesho with 12.7%, Myntra with 8%, and Purplle with 8%.

Multiple Response Analysis

Table-2.4 : Types of Cosmetic Products Purchase Online

Cosmetics Frequencies	Responses		Percentage of
	N	Percentage	Cases
Skin care products	**89**	**28.8%**	**59.3%**
Hair care products	61	19.7%	40.7%
Fragrance	35	11.3%	23.3%
Makeup	**80**	**25.9%**	**53.3%**
Shaving	13	4.2%	8.7%
Bath and Body	31	10.0%	20.7%
Total	309	100.0%	206.0%

a. Dichotomy group tabulated at value 1.

The frequency table of multiple responses 2.4 shows that total 309 responses received from 150 respondents. Most of the respondents purchase skin care products 28.8% (89) followed by makeup products 25.9% (80), hair care products 19.7% (61), fragrance 11.3% (35), bath and body 10% (31) and shaving 4.2% (13).

Objective-3 : To determine the factors influencing the customer attitude towards online shopping of cosmetic products in Meerut district.

Multiple Response Analysis

Table-3 : Key Influencing Factors to Buy Cosmetics Online

Influencing Factors Frequencies	Responses		Percentage of Cases
	N	Percentage	
Key influencing factors to Privacy buy cosmetics online	17	3.9%	11.3%
Lower price	**68**	**15.8%**	**45.3%**
Special discount/Offer	104	24.1%	69.3%
Variety	54	12.5%	36.0%
Door delivery	58	13.5%	38.7%
Laziness to go to shop	9	2.1%	6.0%
No time to go to shop	25	5.8%	16.7%
Easy product comparison	30	7.0%	20.0%
Enjoyment	12	2.8%	8.0%
Non availability of the brand in nearby shops	**54**	**12.5%**	**36.0%**
Total	431	100.0%	287.3%

a. Dichotomy group tabulated at value 1.

Source : Primary Data.

The frequency table of multiple responses presents that total 431 responses collected from 150 respondents. Majority of the respondents have the opinion that the factors which are influencing them to make online purchase are special discount/offer 24.1% (104), followed by lower price 15.8% (68), variety 12.5% (54), non availability of the brand in nearby shops 12.5% (54), easy products comparison 7% (30), no time to go to shop 5.8% (25), privacy 3.9 (17), enjoyment Table 3.1 2.8% (12) and laziness to go to shop 2.1% (9).

Table 3.1 : People Who Motivate to Make Online Purchase

People Frequencies	Responses		Percentage of
	N	Percentage	Cases
Family members	**53**	**23.1%**	**35.3%**
Friends	86	37.6%	57.3%
Colleagues	23	10.0%	15.3%
Neighbor	6	2.6%	4.0%
Beauty professionals	30	13.1%	20.0%
None	31	13.5%	20.7%
Total	229	100.0%	152.7%

Source : Primary Data.

The frequency table of multiple responses displays that total 229 responses received from 150 respondents. Most of the respondents shared that people who motivate them to make online purchase of cosmetics are friends 37.6% (86), followed by family members 23.1% (53), beauty professionals 13.1% (30), colleagues 10% (23), and neighbor 2.6% (6). Although 13.5% (31) people choose none option, that means they purchase online cosmetic products by their own perception, nobody influence them to make purchase.

Table-3.2 : Visual Appearance of the Websites

Is the visual appearance of the websites really motivating?

Visual Appearance	Number	Percentage	Valid Percentage	Cumulative Percentage
Yes	141	94.0	94.0	94.0
No	9	6.0	6.0	100.0
Total	150	100.0	100.0	

Source : Primary Data.

The table 3.2 represents the frequency of the visual appearance of the websites that really motivates the people. As per the above analysis it is clear that 94% people think that the visual appearance of the websites really motivates them. Vice-versa 6% people have the opinion that the visual appearance of the websites is not really motivating.

Table 3.3 : Types of Advertising that Influence the Most to make Purchase

Which type of Advertising influence you the most to make purchase?

Advertising	Number	Percentage	Valid Percentage	Cumulative Percentage
Television advertisement	8	5.3	5.3	5.3
Newspaper	1	.7	.7	6.0
Social media or internet	**132**	**88.0**	**88.0**	**94.0**
E-mails	3	2.0	2.0	96.0
Billboard or banners	6	4.0	4.0	100.0
Total	150	100.0	100.0	

Source : Primary Data.

Table-3.4 : Return Policy of Shopping Website

Is the return policy of shopping websites easier than the traditional shops?

Return Policy	Number	Percentage	Valid Percentage	Cumulative Percentage
Yes	125	83.3	83.3	83.3
No	25	16.7	16.7	100.0
Total	150	100.0	100.0	

Source : Primary Data.

The frequency table 3.4 shows the return policy of shopping website. On the basis of the above analysis it is confirm that 83.3% people believes that the return policy of shopping websites easier than the traditional shops. Vice-versa 16.7% people have the opinion that the return policy of shopping websites is not easy at all.

Major findings and discussion

➢ On the basis of the analysis, most of the respondents were 21-30 age groups. Female respondents were 66% which is higher as compare to male respondents in numbers. Overall most of the respondents (female and male) were post-graduate, students, unmarried and lives in semi-urban area of the Meerut city. The average family income (51000 or above) per month of the respondents were in most of the cases.

➢ The purchase pattern of the respondents showed that the respondents use and purchase cosmetics as per their need or requirement. Majority of the respondents spent 500 or below per month in online shopping and their most favorite shopping website was Amazon.

➢ Last but not the least, the factors that influence the customer attitude towards online purchase of cosmetics; Special discount/offer, lower price, door delivery, variety and non availability of the brands in nearby shops seemed much influencing factors as per the respondents. Majority of the respondents felt that their friends and family members influenced them most. Social media or internet was the most influencing advertising strategy chosen by the respondents.

E-Commerce companies should pay attention to target teenagers followed by younger, middle age or old age groups. Moreover, the companies should target male customers also. E-Commerce companies like Nykka, Purplle etc. should do mass advertising and adopt strategies that influence customers mind in a significant way. Since, these companies are specifically doing their business in cosmetics and personal care. Still the choice of majority of the customers is Amazon. The companies should also adopt word of mouth marketing strategy.

Conclusion

The speedy growth of information technology as well as product and process innovations, there is a switch in traditional retail store to move towards online retail store. Online shopping has turned into one of the most reasonable ways to get the preferred goods and services. The existing retail stores need to accept the varying trends of customer needs, attitude, desire and behavior. The traditional perspectives about shopping have modified and the retailers can no longer assist efficiently unless they do not ratify their business using online platform. At the same time the online shopping medium cannot fully replace

the traditional medium; it introduces a modern outlook to shopping and is never negligible.

This research study tried to analyze the demographic profile of online cosmetic shoppers in Meerut district and the variables that affect the attitude of the shoppers towards internet shopping of cosmetics. Broadly speaking, it can be concluded that the standard level of performance persuading among the customers in Meerut district with reference to online shopping of cosmetic products can be expanded potentially by growing awareness towards the importance of cosmetic usage and the benefits of online shopping of cosmetic products.

Implications of the Research

There are two sub-sections in this section. The theoretical implication comes first, and it discusses the theoretical implications of the study. The second portion focuses on the practical managerial implications of the study in real-world situations.

Theoretical Implications of the Research

First of all, the previous empirical findings lend credence to the model of online buying attitude that is described in this study. This study investigated an extensive internet shopping attitude. The demographic profiles of the respondents, online purchase pattern as well as the factors influencing the online shopping attitude towards cosmetic products have been analyzed. All the factors have a big impact on how people feel about buying cosmetics when they shop online. Consequently, it can be said that the representation is pertinent for online shopping of cosmetic products in Meerut. The results provide a clear picture of the relationship between the mindset of internet shoppers, their behavioral intentions, and the actual purchases of cosmetics made through this medium.

Practical Implications of the Research

The study's analysis of online shoppers' attitudes regarding cosmetic products in Meerut is a significant contribution. As previously said, there is a dearth of studies specifically examining how the internet might be used for shopping of cosmetic products in the Indian context. To ensure the success of online shopping in such a situation and to give e-retailers strategic direction, thorough research aimed at identifying and analyzing potential and actual internet buyers is crucial. The most significant finding as reported through the study is the various factors

motivating the attitude of the customers towards internet shopping and is very crucial for targeting internet shoppers. Due to the collectivistic nature of India and the traditional and delicate nature of Meerut, perceptions and social interactions play a significant role in the majority of buying decisions. To boost the favorable opinions of the customers, the primary motivators may be improved and de motivators may be removed. The study also evaluated the factors influencing the online shopping attitude such as; Special discount/offer, lower price, door delivery, variety and non availability of the brands in nearby shops. To success in their online businesses, marketers may concentrate on enhancing these factors. The marketers may focus on minimizing the elements that negatively affect consumers' attitudes towards online buying. E-Commerce concerns who are especially well known in dealing with the cosmetic products like NYKKA and Purplle should concentrate on their promotional strategies as the study found the most favorite shopping website of the customers is Amazon instead of NYKKA and Purplle. Without this, marketing attempts to influence behavioral intention won't result in actual cosmetic product purchases made through online channels, which will have an impact on the potential adoption of e-tailing.

Suggestion for Future Research

This study is highlighted the customer purchase intention towards online shopping of cosmetic products. The future research can focus on other factors like customer satisfaction level, post purchase behavior and so on. Future studies can consider the impact of online shopping on traditional shopping and the sustainability of traditional stores. Future studies can focus on other products or services instead of cosmetics, which are getting online nowadays. With respect to geographical area, the data has been collected from Meerut only; future studies can focus on other cities or countries.

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Developing a Composite Global Index for Financial Inclusion (GIFI)

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***Abstract :** Policymakers widely acknowledged that financial inclusion significantly contributes to economic growth and financial stability. However, the question of its reliable measurement is still open. This study is an attempt to develop a composite Global Index for Financial Inclusion (GIFI) with the little methodological advancements and by integrating significant variables related to major financial institutions such as banks, insurance sector and other deposit corporations[1]. The findings suggests several insightful conclusions with their reliability test. The new composite index is utilized to rank the sample countries, adding another analytical tool that might be regularly employed for policy and surveillance purposes.*

Keywords :   Financial Inclusion, Financial Institutions, Global Composite Index, PCA.

1. Introduction

Economic theorists and policymakers when dives deeper to address economic concerns like inequality and weak development, contend that financial integration could help to close these disparities (Breunig & Majeed, 2020). Therefore the idea of financial inclusion emerged along with the notion that growth should encompass all dimensions, not just the GDP. Financial inclusion ensures a wide range of services that are simple to acquire, reasonable and available when needed. This will help the economy, the service provider, the entire formal financial system, and the individual in need to development (Levine, 1997; Burgess & Pande, 2005; Beck, Demirgüç-Kunt, et al., 2007; Yang and Yi, 2008; Abu-Bader and Abu-Qarn, 2008; Pal, 2011; Jeanneney &

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Kpodar, 2011; Bittencourt, 2012; Rojas-Suarez, 2015 Neaime & Gaysset, 2018; Dahiya & Kumar, 2020). An inclusive financial system is not an end in itself, but a means to an end. According to studies, nations who are able to build strong financial system are more likely to be able to launch and grow firms, invest in education, manage risk, and withstand financial shocks. Therefore various efforts have been put in place by several central banks in both developing and developed nations to encourage financial inclusion. The International Monetary Fund (IMF), the G20, the Alliance for Financial Inclusion (AFI), and the Consultative Group to Assist the Poor (CGAP) are taking on a progressively active role at the international level in gathering the data and setting standards to improve financial inclusion. Such global projects that sought to mainstream the marginalized began to achieve their goals with greater depth of understanding. However, there was a lack of agreement on how the accomplishment could be calculated consistently for all nations or governments within a certain geographical area and set a platform for monitoring changes over time and further comparing them.

The significance of financial inclusion is well known, though there isn't a definitive agreement on how it should be assessed. Numerous methods have been suggested in the literature. The previous versions of financial inclusion index methodologies left out from their measurements some important aspects of financial access, time trend, and the diversity of institutions. This study, therefore, tries to bridge the gaps in the knowledge base.

The remaining part of this article is organized in the following manner: The Section 2 contains pertinent and recent research studies on financial inclusion and the creation of financial inclusion indices. The highlights the major objectives of the study mentioned in Section 3. The Section 4 represents the research methodology, looks at the various databases that are utilized to gather the data for dimensions, time period of the study, sample countries' characteristics and present methodology of developing the index. The Section 5 focuses on the evaluation of results and findings. The robustness and reliability of the index are tested by looking at how these characteristics relate to financial inclusion in different countries with different income levels. At last, the Section 6 concludes the study with some observations and potential directions for future research.

2. Review of Literature

Numerous researches that have attempted to measure the of financial inclusion can be found in the literature. The research, whether in terms of the aspects to

be included or the methodology to aggregate those dimensions, was primarily dominated by the static approach. The goal of the current analysis is to focus on fundamental areas that remained untouched by the literature.

Although the literature in this area first concentrated on the idea of exclusion (Leyshon and Thrift, 1995), that evolved from financial intermediaries' restricted access to and usage of formal financial services. The banking industry was the main target of the majority of the financial inclusion initiatives. However, policymakers have now acknowledged the significance of other goods and services including payments and insurance (Mor, 2013; Zulaica Piñeyro, 2013;Ambarkhane et al., 2016). The inclusion of other sectors will aid in determining the true degree of financial inclusion in the area under discussion.

The term "financial inclusion" has many definitions and is a broad concept. Some studies focus on the lack of access to the official financial system and social isolation (i.e., financial exclusion) (Leyshon & Thrift, 1995), the systems that prohibited people from disadvantaged origins from accessing the financial system. In contrast, other studies have put forth a straight forward definition of financial inclusion (Demirguc-Kunt et al., 2015), where financial inclusion is described as having a bank account to begin with, using it frequently and being able to make payments quickly and affordably (Sarma, 2015). According to the World Bank, financial inclusion means that people and businesses have access to practical and reasonably priced financial products and services that satisfy their needs for transactions, payments, savings, credit, and insurance that are provided responsibly and sustainably. As a result, the definition of financial inclusion is a topic of continuing dispute on a global scale. However, the majority of studies contend that financial inclusion is the simple accessibility of all formal financial services at an affordable cost, in an acceptable amount of time, and for all societal segments.

One of the most frequently used and discussed methods to measure financial inclusion was created by Sarma, (2008); Sarma & Pais, (2010) utilizing a combination of the Inverse Euclidean Distance approach and the UNDP's methodology for computing the Human Development Index (HDI). The index was created based on the concept proposed by Zelany, (1974) and on ideas from Nathan et al., (2008). Several scholars have used Sarma, (2008) methodology; some of the most well-known include Arora, (2010). Additionally, Kumar & Mishra, (2011) enhanced data normalization through the use of the distance from the average technique as opposed to the max-min strategy. The reason for

this is that the max-min technique can produce biased findings if extreme values are not taken into account. Additionally, Gupte et al., (2012) enhanced the index by combining different variables using the arithmetic mean and then combining the dimensions into the final index using the geometric mean. Chakravarty & Pal, (2013) proposed an upgrade to Sarma, (2008) method using an axiomatic approach, where the marginal rate of substitution between the variables was between 0 and 1. Additionally, the data was normalized using a weighted geometric mean and a distance to the reference point, where the highest value of variables across countries was considered as a reference point approach by Amidzic et al., (2014); Mialou et al., (2017). This was done to account for perfect substitutability and extreme values. Amidzic et al., (2014); Mialou et al., (2017) employed the same methodology as Saravanabhavan, (2018) with the exception that the min-max method was utilized to standardize the data instead of the distance to reference point approach.

Many nations view financial inclusion as a key factor in determining a nation's economic development. As a result, it draws attention from academics and decision-makers for economic policy making on a global scale. There are numerous research on financial inclusion that concentrate on measuring and promoting financial inclusion (Sarma, 2008, 2012, 2015; Sarma & Pais, 2010; Ardic et al., 2011; Allen et al., 2016; Ambarkhane et al., 2016, 2020; Cámara & Tuesta, 2017; Mialou et al., 2017; Wang & Guan, 2017; Park & Mercado, 2021; Li & Wang 2022) or, the relation of financial inclusion with economic growth, income inequality and poverty reduction (Park & Mercado, 2015; Ghosh & Vinod, 2017; Makina & Walle, 2019).

3. Objectives of the Study

The study seeks to accomplish the following goals in light of the thorough literature evaluation and the discovered research gaps.

1. To develop a composite Global Index for Financial Inclusion (GIFI) for selected sample countries with improved methodology.

2. To examine whether the level of financial inclusion differs among nations with various income levels of sample countries.

3. To examine what role does banks, the insurance sector and other deposit corporations play in enhancing the level of financial inclusion.

4. Research Methodology

4.1. Dimensions of the Index

The specification of two areas is necessary before considering the feasibility of creating an index for financial inclusion i.e. the financial institutions that will be considered and the variables chosen to represent the phenomena under study.

The literature includes an immense number of studies that have taken the initiative to measure the concept of financial inclusion, but the studies were largely dominated by considering only one branch of financial services i.e. Banking (Ajide et al., 2020; Beck, Demirguc-Kunt, et al., 2007; Bozkurt et al., 2018; Dar & Ahmed, 2020; Datta & Singh, 2019; Issaka Jajah et al., 2020; Menon, 2019; Owen & Pereira, 2018; Sarma, 2012, 2015, 2008, 2010; Sarma & Pais, 2010; Sethy, 2015; Sha'ban et al., 2020). Although there are other financial intermediaries too, whose contribution towards financial inclusion cannot be neglected. Therefore the major contribution of this study will be the development of a composite Global Index for Financial Inclusion (GIFI) considering the role-play of banks, insurance sector and other deposit corporations[2].

The fundamental criteria used to describe the phenomenon under study must be measurable and quantifiable. Therefore two dummy dimensions of supply and demand are used in this study to develop global financial inclusion index. To assess each dimension, we employ their proxies since the data for many of these variables are frequently not easily accessible.

The supply and demand variables proxied through different variables and their data source are presented in the following table 1:

4.2. Time Period under Study

Long-term research is necessary to monitor changes in financial inclusion levels over time while preserving the statistical validity of the data. Keeping in mind the need of the study and the data that is available, the study considers 2010-2020 as the sample period.

4.3. Sample Countries

Keeping in mind the data availability of selected variables following countries (Table 2) from different regions are chosen as sample countries under study.

Table-1 : Proxy Indicator(s)

Dimension(s)	Financial Service Provider(s)	Proxy Indicator(s)	Data Source(s)
Supply Dimension	Banking Sector	• No. of ATM machines per one thousand square kilometers • No. of ATM machines per one lakh of adult population • No. of bank branches per one thousand square kilometers • No. of bank branches per lakh of adult population • Mobile-cellular subscriptions per 100 inhabitants • Fixed broadband subscriptions per 100 inhabitants	IMF's Financial Access Survey (FAS)[3] and Statistics of international Telecommunication Union
	Insurance Sector	• No. of insurance corporations per lakh adults	IMF's Financial Access Survey(FAS)
	Other deposit corporations	• No. of other deposit corporations per 1000 square kilometer • No. other deposit corporations per one lakh adults	IMF's Financial Access Survey(FAS)
Demand Dimension	Banking Sector	• No. of loan accounts per thousand people • No. of deposit accounts per thousand people • No. of credit cards per 1000 adults • No. of debit cards per 1000 adults • Mobile, internet and mobile money transactions (during reference year per 1000 adults)	IMF's Financial Access Survey(FAS) and Statistics of international Telecommunication Union
	Insurance Sector	• Outstanding deposits, insurance corporation of which life insurance and annuity entitlements • Outstanding deposits, insurance corporation of which non-life insurance	IMF's Financial Access Survey(FAS)
	Other deposit corporations	• Outstanding loans with other deposit corporations • Outstanding deposits with other deposit corporations	IMF's Financial Access Survey(FAS)

Source : Authors' Selection

Table 2 : Selected Sample Countries

Region wise classification by World Bank →	East Asia & Pacific ↓	Europe & Central Asia ↓	Latin America & Caribbean ↓	Middle East & North Africa↓	South Asia ↓	Sub-Saharan Africa ↓
	Cambodia	Albania	Argentina	Lebanon	Bangladesh	Cameroon
	Indonesia	Cyprus	Brazil	Egypt	India	Rwanda
	Malaysia	Georgia	Colombia		Pakistan	Zimbabwe
	Myanmar	Hungary	Costa Rica			Zambia
	Thailand	Latvia	Dominican Republic			Liberia
	Solomon	Moldova	Jamaica			Mauritius
	Mongolia	Macedonia	Suriname			Botswana
	Fiji	Poland				
	Samoa	Portugal				

Source: Authors' Selection and the World Bank bifurcation[4]

4.4. Computation of GIFI

A four-step methodology is employed in the present study to develop the Global index for financial inclusion (GIFI).

Step 1 : Imputation of Missing Data

We contemplated filling in the gaps for the missing portions of the data through interpolation and extrapolation.

Step 2 : Normalization of indicators for each dimension

The indices of financial inclusion have considerable variability in their values. Therefore, the empirical normalization of data of all the indicators of dimensions is necessary to arrive at a single scale spanning from 0 to 1. The normalization is done with the following steps :

$$d_{i,t,c} = \frac{A_i - m_i}{A_i - M_i} \qquad (1)$$

Where $d_{i,t,c}$ represents the normalized value of indicators 'i' of dimensions 'd' in a period 't' for a country 'c'.

A_i is the actual value of indicator i

m_i is the minimum value of indicator i

M_i is the maximum value of indicator i

Therefore, the higher the value of $d_{i,t,c}$ higher will be the achievement of that country in that indicator.

Although the method is similar to the method used by the UNDP to calculate HDI, HPI, GDI using the goal post method but differs in respect of fixing benchmark values. The UNDP has a fixed point as goal post for computing HDI (Human Development Index). The present study has considered goal posts as empirically observed maximum and minimum in the case of each indicator rather than the highest value. However, the maximum observed value could be an outlier. To solve this problem, the upper value goal post is taken as the 90th percentile. This will help to prevent comparing the countries with overly high benchmarks, removing outliers and smoothing the value of the index at the higher level.

Step 3 : Assignment of Weights

The present study relies on a scientific method to avoid subjectivity in regards to weights with the help of Principal Component Analysis (PCA). The weight is assigned to the indicators to show the relative relevance of the indicator of particular dimension in assessing a financial system's inclusivity.

$$d_{i, w, t, c} = w_i (d_{i, t, c}) \qquad (2)$$

Where $d_{i, w, t, c}$ represents *weighted* normalized value of indicators '*i*' of dimensions in a period '*t*' for a country '*c*'.

$d_{i, t, c}$ Normalized values calculated in equation (1)

w_i is the weights attached to indicator *i*, $0 \leq w_i \leq 1$

Step 4 : Index Computation

In the present study we have two broad dimensions i.e. Supply represented by S1 and Demand represented by D1. The various indicators considered in the study are dummies representing these two dimensions only.

(i) At this stage the weighted normalized values of all variables are clubbed together with the help of arithmetic mean to get one single value for the Supply and Demand dimensions. The step is followed to calculate separate supply and demand dimensions for banking sector, the insurance sector and other deposit corporations, represented as SB, SI, and SO as supply dimensions and DB, DI, and DO as demand dimensions.

(ii) Further the euclidean distance approach or also known as displaced ideal method is used to calculate the distance of all the dimensions from their best case i.e. value 1 and the worst case i.e. value 0 at particular point of time with the help of following formula.

$$X1_{B,I,O} = \sqrt{\frac{\left(0 - S_{B,I,O}\right)^2 + \left(}{2}} \qquad (3)$$

$$X2_{B,I,O} = 1 - \sqrt{\frac{\left(1 - S_{B,I,O}\right)^2}{}} \qquad (4)$$

Where $X1_{B,I,O}$ represents distance from worst case

$X2_{B,I,O}$ represents distance from best case

$S_{B,I,O}$ represents supply dimension of banks, insurance and other deposit corporations

$D_{B,I,O}$ represents demand dimension of banks, insurance and other deposit corporations

(iii) Finally the values of *GIFI$_B$*, *GIFI$_I$*, *GIFI$_O$* for banks, insurance and other deposit corporations for a particular year, is calculated by taking Geometric mean of computed *(X1$_B$, X2$_B$)*; *(X1$_I$, X2$_I$)*; *(X1$_O$, X2$_O$)* in previous step.

$$GIFI_B = Geomean \ (X1_B, \ X2_B) \qquad (5)$$

$$GIFI_I = Geomean \ (X1_B, \ X2_B) \qquad (6)$$

$$GIFI_O = Geomean \ (X1_B, \ X2_B) \qquad (7)$$

$$GIFI_{B,I,O} = Geomean \ (GIFI_B, \ GIFI_I, \ GIFI_O) \qquad (8)$$

Further, the Global Index for Financial Inclusion *GIFI$_{B,I,O}$* is computed by combining the GIFI values for banks, insurance, and other deposit corporations with the aid of geometric means, representing the financial services offered by the aforementioned financial institutions for each of the selected years.

Step 5 : Evaluating of role of each financial institution in raising the level of financial inclusion

For each of the eleven years (2010-20) for the selected financial institutions, step 4 calculated and provided us with the findings in a bundled format. In this step, we have used the average of eleven years of computed GIFI (Banks), GIFI (Insurance sector), and GIFI (ODC) independently in order to assess the relative significance of chosen financial institutions for each of the sample countries throughout the course of time. This step will help us to assess each financial institution's significance in raising the general degree of financial inclusion.

$$CGIFI_{Bank(2010-20)} = (GIFI_{Year1} + GIFI_{Year1} + ... \ GIFI_{Year11})/11 \qquad (9)$$

$$CGIFI_{Insurance(2010-20)} = (GIFI_{Year1} + GIFI_{Year1} + ... \ GIFI_{Year11})/11 \qquad (10)$$

$$CGIFI_{ODT(2010-20)} = (GIFI_{Year1} + GIFI_{Year1} + ... \ GIFI_{Year11})/11 \qquad (11)$$

Where represents *CGIFI* Cumulative Global Index for Financial Inclusion over the course of selected time period for selected financial institutions individually.

5. Results and Findings

Despite of the small sample size, several insightful conclusions can be drawn (Table 3). It's interesting to notice that the majority of OECD nations have high and moderate GIFI values. Particularly for selected variables, Cyprus and Mauritius outperformed every other country in the sample by a wide margin in every year of the selected sample period. Such rankings would suggest that economically outreaching nations are those that are geographically tiny and have a high population density[5]. Furthermore, it is not surprising that several 'Overseas Financial Centers (OFC)' have high GIFI values, such as Cyprus. Additionally, the current index does not differentiate between resident and non-resident bank accounts. Due to the significant volume of non-resident banking activity, tax havens like Mauritius may exhibit a high level of financial inclusion in the current ranking. The regional diversity at the bottom of the list is not similar to that at the top. Nearly all of the nations in the bottom ten for each year are from Africa or the Middle East and Central Asia. Seven of the top 10 GIFI nations were classified as having high or upper middle incomes. Regardless of the time period, the African continent is conspicuously absent from the top of the list. In fact, the only two African nations i.e. Botswana and Mauritius make it into the top ranking of GIFI during the sample period. Additionally, it can be said that over a period of two years, there is no decrease in the cross-sectional dispersion of the index ranks. Additionally, there is evidence of stability in the rankings of indices.

Depending upon the values of GIFI, the selected sample countries are bifurcated into three levels of financial inclusion as per the following scale :-

1. High level of financial inclusion – Above 0.14

2. Middle level of financial inclusion – 0.07 to 0.14

3. Low level of financial inclusion – Below 0.00

5.1. Robustness of the Index

Literature gives strong inferences of the relation between financial inclusion and the income level of a country. The percentage of adults who have a bank

account increased from 51 percent in 2011 to 62 percent in 2014 and reached 69 percent in 2017, cited by the World Bank, indicating a significant improvement in financial inclusion globally. The main forces behind this development are technological advancements and government efforts. As of 2017, 94 percent of people in high-income countries have bank accounts, compared to 65 percent in middle-income countries and only 35 percent in low-income countries. Therefore it can be said that there is a significant discrepancy between the income level and level of financial inclusion (Demirgüç-Kunt et al., 2018; Sha'ban et al., 2020). Therefore in order to validate the results of $GIFI_{B,I,O}$, a comparison is made between income level and $GIFI_{B,I,O}$ of the country that whether the high level of GIFI is represented by the higher level of income effect or not.

The World Bank divides economies into four income groups: low, lower-middle, upper-middle, and high income.[6] As countries from the "Lower" income group are less readily available for sample countries. The countries from the "Lower" and "Lower-Middle" income groups are recognized together and simultaneously the countries from the "High" and "Upper-Middle" income groups are together. Finally, countries were grouped as "High-Income" and "Low-Income" strata.

As per the results of Table 3, over the time countries with high and upper-middle incomes have been more prevalent in the top-ranked nations. Most of the lowest ranked countries belongs to low or lower middle income group. The results of our study somewhere consistent with Amidzic et al., (2014) ; Park & Mercado, (2018); Yorulmaz, (2018).

To validate our observations in Table 3, the results are tried to be proven statistically. The independent samples t-test is used to examine the significance of changes in GIFI values over time. The prerequisites of normality and homogeneity of variance for independent t-tests were checked to arrive at a solid statistical framework for relying on such parametric analyses. The study determines that the data for all the years are roughly normally distributed using the significance values of the Shapiro-Wilk test and Kolmogorov-Smirnov (Shapiro and Wilk, 1965). Table 4 provides a summary of the tests for normalcy, test of homogeneity and results of the independent sample t-test.

Table-3 : Results

Country	2010			2011			2012			2013			2014			2015			2016			2017			2018			2019			2020		
Cyprus	0.26	HG	HI	0.26	HG	HI	0.26	HG	HI	0.26	HG	HI	0.26	HG	HI	0.24	HG	HI	0.24	HG	HI	0.23	HG	HI	0.22	HG	HI	0.2	HG	HI	0.19	HG	HI
Lebanon	0.26	HG	HI	0.24	HG	HI	0.22	HG	HI	0.2	HG	HI	0.19	HG	HI	0.18	HG	HI	0.18	HG	HI	0.16	HG	HI	0.16	HG	HI	0.15	HG	HI	0.14	MG	HI
Mauritius	0.25	HG	HI	0.25	HG	HI	0.25	HG	HI	0.24	HG	HI	0.24	HG	HI	0.23	HG	HI	0.23	HG	HI	0.23	HG	HI	0.23	HG	HI	0.22	HG	HI	0.22	HG	HI
Hungary	0.23	HG	HI	0.23	HG	HI	0.2	HG	HI	0.19	HG	HI	0.19	HG	HI	0.16	MG	HI	0.14	MG	HI	0.13	MG	HI	0.11	MG	HI	0.03	LG	HI	0.02	LG	HI
Colombia	0.19	HG	HI	0.19	HG	HI	0.19	HG	HI	0.18	HG	HI	0.19	HG	HI	0.19	HG	HI	0.19	HG	HI	0.18	HG	HI	0.19	HG	HI	0.19	HG	HI	0.19	HG	HI
Portugal	0.18	HG	HI	0.19	HG	HI	0.19	HG	HI	0.19	HG	HI	0.19	HG	HI	0.18	HG	HI	0.2	HG	HI	0.19	HG	HI	0.17	HG	HI	0.16	HG	HI	0.15	HG	HI
Fiji	0.18	HG	LM	0.18	HG	LM	0.17	HG	LM	0.17	HG	LM	0.18	HG	LM	0.18	HG	LM	0.18	HG	LM	0.18	HG	LM	0.18	HG	LM	0.18	HG	LM	0.17	HG	LM
Thailand	0.16	HG	HI	0.19	HG	HI	0.18	HG	HI	0.17	HG	HI	0.18	HG	HI	0.16	HG	HI	0.16	HG	HI	0.15	HG	HI	0.16	HG	HI	0.16	HG	HI	0.16	HG	HI
India	0.16	HG	LI	0.16	HG	LI	0.16	HG	LI	0.17	HG	LI	0.18	HG	LI	0.18	HG	LI	0.18	HG	LI	0.18	HG	LI	0.18	HG	LI	0.19	HG	LI	0.18	HG	LI
Moldova	0.15	HG	LM	0.16	HG	LM	0.15	MG	LM	0.15	MG	LM	0.14	MG	LM	0.12	MG	LM	0.13	MG	LM	0.13	MG	LM	0.15	HG	LM	0.14	MG	LM	0.13	MG	LM
Costa Rica	0.15	HG	HI	0.16	HG	HI	0.16	HG	HI	0.16	HG	HI	0.17	HG	HI	0.16	HG	HI	0.16	HG	HI	0.15	HG	HI	0.16	HG	HI	0.16	HG	HI	0.16	HG	HI
Indonesia	0.15	MG	LM	0.15	HG	LM	0.17	HG	LM	0.17	HG	LM	0.18	HG	LM	0.19	HG	LM	0.2	HG	LM	0.2	HG	LM	0.2	HG	LM	0.2	HG	LM	0.2	HG	LM
Botswana	0.15	MG	HI	0.15	HG	HI	0.16	HG	HI	0.15	HG	HI	0.16	HG	HI	0.15	MG	HI	0.15	HG	HI	0.15	MG	HI	0.15	HG	HI	0.14	MG	HI	0.13	MG	HI
Poland	0.14	MG	HI	0.14	MG	HI	0.14	MG	HI	0.14	MG	HI	0.14	MG	HI	0.13	MG	HI	0.13	MG	HI	0.11	MG	HI	0.11	MG	HI	0.11	MG	HI	0.1	MG	HI
Mongolia	0.13	MG	LM	0.14	MG	LM	0.14	MG	LM	0.14	MG	LM	0.15	HG	LM	0.14	MG	LM	0.15	HG	LM	0.15	MG	LM	0.16	HG	LM	0.16	HG	LM	0.15	MG	LM
Jamaica	0.12	MG	HI	0.13	MG	HI	0.12	MG	HI	0.12	MG	HI	0.13	MG	HI	0.12	MG	HI	0.12	MG	HI	0.11	MG	HI	0.11	MG	HI	0.11	MG	HI	0.11	MG	HI
Dominican	0.11	MG	HI	0.12	MG	HI	0.12	MG	HI	0.13	MG	HI	0.13	MG	HI	0.13	MG	HI	0.13	MG	HI	0.12	MG	HI	0.12	MG	HI	0.13	MG	HI	0.13	MG	HI
Suriname	0.1	MG	HI	0.1	MG	HI	0.1	MG	HI	0.1	MG	HI	0.1	MG	HI	0.09	MG	HI	0.09	MG	HI	0.08	MG	HI	0.08	MG	HI	0.08	MG	HI	0.07	LG	HI
Latvia	0.09	MG	HI	0.08	MG	HI	0.08	LG	HI	0.07	LG	HI	0.07	LG	HI	0.06	LG	HI	0.06	LG	HI	0.05	LG	HI	0.05	LG	HI	0.05	LG	HI	0.05	LG	HI
Zimbabwe	0.09	MG	LM	0.1	MG	LM	0.11	MG	LI	0.12	MG	LI	0.13	MG	LI	0.11	MG	LI	0.1	MG	LI	0.11	MG	LI	0.11	MG	LI	0.12	MG	LI	0.11	MG	LI
Albania	0.08	MG	HI	0.08	MG	HI	0.09	MG	HI	0.08	MG	HI	0.08	LG	HI	0.07	LG	HI	0.08	LG	HI	0.07	LG	HI	0.07	LG	HI	0.08	LG	HI	0.08	LG	HI
Georgia	0.08	MG	LM	0.09	MG	LM	0.11	MG	LM	0.12	MG	LM	0.12	MG	LM	0.11	MG	LM	0.12	MG	LM	0.12	MG	LM	0.12	MG	LM	0.11	MG	LM	0.11	MG	LM
Macedonia	0.08	LG	HI	0.08	MG	HI	0.07	LG	HI	0.07	LG	HI	0.07	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI
Brazil	0.07	LG	HI	0.07	LG	HI	0.07	LG	HI	0.07	LG	HI	0.07	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI
Cambodia	0.07	LG	LM	0.08	MG	LM	0.09	MG	LM	0.1	MG	LM	0.13	MG	LM	0.14	MG	LM	0.14	MG	LM	0.12	MG	LM	0.13	MG	LM	0.13	MG	LM	0.14	MG	LM
Bangladesh	0.07	LG	LM	0.07	LG	LM	0.07	LG	LI	0.08	LG	LI	0.08	LG	LI	0.07	LG	LI	0.08	LG	LI	0.07	LG	LI	0.08	LG	LI	0.08	LG	LI	0.08	LG	LI
Samoa	0.06	LG	LM	0.06	LG	LM	0.07	LG	LI	0.09	MG	LI	0.08	MG	LI	0.08	LG	LI	0.08	MG	LI	0.08	LG	LI	0.07	LG	LI	0.07	LG	LI	0.06	LG	LI
Malaysia	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.06	LG	HI	0.05	LG	HI	0.05	LG	HI	0.05	LG	HI	0.05	LG	HI	0.05	LG	HI	0.05	LG	HI
Rwanda	0.05	LG	LM	0.06	LG	LI	0.07	LG	LI	0.07	LG	LI	0.08	LG	LI	0.07	LG	LI	0.07	LG	LI	0.07	LG	LI	0.07	LG	LI	0.07	LG	LI	0.06	LG	LI
Cameroon	0.04	LG	LM	0.04	LG	LM	0.03	LG	LM	0.03	LG	LM	0.04	LG	LM	0.03	LG	LM	0.04	LG	LM	0.04	LG	LM	0.04	LG	LM	0.04	LG	LM	0.03	LG	LM
Solomon Islands	0.04	LG	LM	0.04	LG	LM	0.04	LG	LI	0.04	LG	LI	0.04	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.04	LG	LI	0.04	LG	LI
Liberia	0.03	LG	LM	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.02	LG	LI
Egypt	0.03	LG	LM	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI
Pakistan	0.03	LG	LM	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.04	LG	LI	0.04	LG	LI
Argentina	0.02	LG	HI	0.02	LG	HI	0.02	LG	HI	0.02	LG	HI	0.02	LG	HI	0.02	LG	HI	0.03	LG	HI	0.03	LG	HI	0.04	LG	HI	0.04	LG	HI	0.04	LG	HI
Zambia	0.02	LG	LM	0.02	LG	LM	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.02	LG	LI	0.03	LG	LI	0.03	LG	LI	0.03	LG	LI	0.02	LG	LI
Myanmar	0	LG	LM	0	LG	LI	0	LG	LI	0	LG	LI	0.01	LG	LI	0.01	LG	LI	0.01	LG	LI	0.02	LG	LI	0.02	LG	LI	0.04	LG	LI	0.06	LG	LI

Where, HG= High GIFI, MG = Middle GIFI, LG= Lower GIFI, HI = High Income Group, LM= Lower Middle Income Group, LI= Low Income Group

Source : Authors' own Computation

Table-4 : Robustness of the Index

Year	Income Group	Normality	Levene's Test Sig.	Homogeneity of Variance	Independent sample t-test		Presence of Significant Diff.
					Sig. Value	Mean Diff.	
2010	High Income Group Low Income Group	YES	.234	YES	.003	.06577	YES
2011	High Income Group Low Income Group	YES	.287	YES	.004	.06447	YES
2012	High Income Group Low Income Group	YES	.324	YES	.003	.06370	YES
2013	High Income Group Low Income Group	YES	.568	YES	.007	.05691	YES
2014	High Income Group Low Income Group	YES	.685	YES	.006	.05849	YES
2015	High Income Group Low Income Group	YES	.772	YES	.019	.04858	YES
2016	High Income Group Low Income Group	YES	.893	YES	.024	.04751	YES
2017	High Income Group Low Income Group	YES	.947	YES	.040	.04136	YES
2018	High Income Group Low Income Group	YES	.745	YES	.074	.03566	No
2019	High Income Group Low Income Group	YES	.540	YES	.032	.04291	YES
2020	High Income Group Low Income Group	YES	.775	YES	.089	.03332	No
Source : Authors' own computation							

The finding suggests that data during sample period for all the years was normal distribution. The results of the independent sample t-test shows that in maximum cases there is a significant difference between the mean levels of financial inclusion attained in high and low-income countries ($p<0.05$) supporting the idea that income level of a country has an effect on the level of financial inclusion attained in a given economies under consideration.

5.2. Reliability of the Index

In a nutshell, a measure's reliability reflects how free from bias it is, allowing for consistent measurements that reflect the measurement's stability and consistency (Bougie & Sekaran, 2019).

The recommended metric satisfies the following six characteristics, generally referred to by the acronym NAMPUS: Normalization, Anonymity, Monotonicity, Proximity, Uniformity, and Signaling (Nathan et al., 2008).

Normalization : The index's value lies between 0 and 1. The index value of one indicates full development, whereas the value of zero denotes the least development across all dimensions.

Anonymity : The value of the index does not change if the values of any two dimensions are swapped.

Monotonicity : This indicates that if the value of one specific dimension for index d1 is higher than the value of that dimension for index d_2—while the values of the other dimensions are the same—then $i_1 > i_2$ applies.

Proximity : reveals the distance from ideal one decrease as the index value increases. The level of progress is thus represented by the index.

Uniformity : The measure prioritizes each dimension equally, showing that each dimension has had balanced growth.

Signaling : The index is suggestive and shows a certain best route leading to higher value. Thus, the index plays a function in both the present and the future in addition to suggesting the current situation.

5.3. Evaluating the role of each financial institution in raising the level of financial inclusion

The Table 5 represents, not all the high GIFI countries are performing good in context of bank, insurance and Other Deposit Corporation's (ODC) services. If we analyze the result carefully it is found that countries like Cyprus and Mauritius are only countries performing great in all the three sectors, on the other hand there are countries like India not performing very good in banking or insurance sector but their role in improving ODC's cannot be neglected.

Similarly countries below Macedonia with Low GIFI values are performing low in ODCs. The analysis highlights that ODCs has performed a major role in uplifting and lowering down the overall GIFI value for a country.

Table-5 : GIFI of Banking, Insurance and ODC Sectors

Countries	Banking Sector	Insurance Sector	ODC Sector
Cyprus	H	H	H
Mauritius	H	H	H
Lebanon	M	H	M
Colombia	M	M	H
Indonesia	M	M	H
Portugal	H	H	M
Fiji	L	H	H
India	L	L	H
Thailand	L	M	H
Hungary	M	M	M
Costa Rica	H	L	M
Botswana	M	H	L
Mongolia	M	M	M
Moldova	M	M	M
Poland	H	L	M
Dominican	M	L	M
Jamaica	M	M	L
Cambodia	L	L	H
Zimbabwe	L	M	M
Georgia	H	L	L
Suriname	L	H	L
Albania	L	L	L

(Contd...)

Bangladesh	L	L	H
Samoa	L	H	L
Rwanda	L	L	H
Macedonia	H	H	L
Brazil	H	L	L
Latvia	H	M	L
Malaysia	H	L	L
Solomon Islands	L	H	L
Cameroon	L	L	L
Egypt	L	L	L
Pakistan	L	L	L
Argentina	M	M	L
Liberia	L	M	L
Zambia	L	L	L
Myanmar	L	L	L

Where H represents High Index value, M represents Medium Index value, L represents Low Index value.

Source : Author's own computation.

6. Conclusion and Suggestions

Overall, the study contributes to literature with the creation of a new financial inclusion index at global level, with more accurate indicators of FI for a few selected countries. The proposed composite GIFI, a multidimensional index is an attempt to usefully combine multiple indicators from the banking, insurance and ODC's sectors so that the index includes data on various aspects of an inclusive financial system. The study takes into account the fact that the development of supply and demand go hand in hand with the process of financial inclusion. Our index is simple to calculate and may be used to evaluate the amount of financial inclusion at national or regional level, in addition can be used as operational tool for assessing the accuracy of financial inclusion data. Policymakers and regulators can use the index as a tool for decision-making.

The index will be helpful to government policy makers in determining the degree of financial inclusion that has occurred at various places. Several indications that are negatively impacting those areas' performance can be found and strengthened appropriately. As a result, this index can be utilized as an impartial instrument for tracking the level of inclusion and efficiently allocating resources.

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Footnotes

1. Other deposit corporations include Deposit and non-deposit taking microfinance institutions, credit union and cooperative societies, other deposit corporations such as savings and loan associations, building societies, rural banks and agricultural banks, post office giro institutions, post office savings banks, savings banks, and money market funds.

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3. The Global Financial Development Database is a comprehensive database for indicators of financial inclusion that covers roughly 203 economies from 1960 to 2021 and has 109 indicators for various financial institutions.

4. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

5. According to Allen et al., (2014) population density in Africa is more closely correlated with financial inclusion and development. According to their analysis, Mauritius, Cape Verde, and the Comoros (small, densely populated countries) are the nations with the highest rank holders in terms of financial inclusion. Despite of this, the authors acknowledged that these nations do not adequately capture the whole diversity of Africa.

6. The World Bank Atlas technique, which smooths out exchange rate fluctuation, is used to convert information on gross national income (GNI) per capita in US dollars from local currency.

Role of Brand Equity in influencing Consumer Buying Behaviour

Robita Sorokhaibam and Loukham Cathrine

Abstract : *Brand equity is an invaluable source of competitive advantage for a business firm. Products or services with high brand equity have greater possibility of inducing favourable buying behavior from the consumers. The main purpose of this study is to examine the influence of brand equity on consumer buying behavior. It also seeks to provide insights on the relationship between brand equity and its four dimensions, namely, brand loyalty, perceived quality, brand awareness, and brand association. In order to fulfil the research objectives, appropriate statistical methods were employed, such as, frequencies, correlations, and regression analysis. The study concluded that brand equity played a major role in influencing consumer buying behavior as empirical results showed a positive and significant effect of brand equity on willingness to pay price premium, brand preference, and purchase intentions. Brand loyalty and perceived quality were revealed to be the dominant dimensions having strong effects on brand equity.*

Keywords : Brand Equity, Consumer Buying Behavior, Brand Loyalty, Perceived Quality, Brand Awareness, Brand Association.

Introduction

Brand equity is a priceless asset which enables businesses to have a significant competitive edge against their rivals in the market. In simple words, it may be explained as the increase in utility or value of a product brought about by the brand name (Yoo & Donthu, 2001). Having strong brand equity offers a business firm with numerous benefits. It "increases the probability of brand choice, leads to brand loyalty, and insulates the brand from a measure of competitive threats" (Pitta & Prevel Katsanis, 1995). In order to successfully leverage the advantages of high brand equity, a clear understanding of the concept of brand equity is required on the part of marketing managers. This will aid them in formulating

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strategies aimed at building and maintaining their brand equity. It is equally important for them to examine the role played by this key asset in influencing consumer buying behavior as the fate of a company depend to a great extent on consumers. This will facilitate business firms in employing brand equity in the right manner to elicit positive response from the consumers toward their brands.

Many studies have been conducted till date relating to brand equity and its influence on consumer buying behavior. However, to the best of the researcher's knowledge, very few examining this relationship have been carried out in the context of India. In addition, the effects of the four dimensions of brand equity, namely, brand loyalty, perceived quality, brand awareness, and brand association, on brand equity have also been given little attention. Thus, the main objective of this study is to analyse the role played by brand equity in influencing consumer buying behavior. Further, it also makes an attempt to identify the dimension which has a dominant impact on brand equity. Results can help marketing managers in realising the importance of brand equity in inducing positive buying behavior. It can also guide them in successfully developing plans and policies focused on creation of favourable brand equity.

Literature Review

Siali et al., (2016) carried out a study to examine the relationship between brand equity and consumer purchasing decision for footwear. The four dimensions of brand equity, namely, brand awareness, brand association, perceived quality and brand loyalty, were adopted for the study. It was proposed that each of the four dimensions had a significant relationship with the consumers purchasing decisions. Results of correlation analysis were in support of the hypotheses. The variables were found to be significantly related and brand equity was confirmed to have an effect on consumer purchasing decisions. Out of the four dimensions, perceived quality was found to have the strongest effect followed by brand loyalty.

In a study, Koapaha & Tumiwa (2016) measured the impact of brand equity on consumer buying behavior toward Starbucks, a well-known coffeehouse. The four dimensions of brand equity, namely, brand awareness, brand association, perceived quality and brand loyalty, as defined by Aaker, were employed in this research. It was hypothesised that all four dimensions influence purchasing behavior of consumers simultaneously. Statistical analysis of data was found to be in support of the hypotheses. In addition, each individual dimension's impact on purchasing decisions of consumers was also tested. In this regard, brand

awareness, perceived quality and brand loyalty were found to have significant and positive influence.

Sasmita & Mohd Suki (2015) proposed that the effect of brand association, brand loyalty, brand awareness and brand image on brand equity was positive in nature. Results of statistical analysis were in support of the hypotheses. Out of the four variables taken into consideration, the impact of brand awareness on brand equity was found to be the strongest, followed by brand image. On the basis of these findings, the researchers advised that the marketers would benefit a great deal by directing their efforts toward increasing brand awareness of their product. This could be done through the provision of creative and informative advertisements to the consumers.

Budac & Baltador (2013) brought to the fore valuable insights into the concept of brand equity and the various techniques employed in the valuation of brand. They explained brand equity as comprising of a set of assets and liabilities associated with a brand, its name and symbol that provides additional value to the brand. These assets and liabilities are brand loyalty, brand recognition, perceived quality, brand associations and other brand assets such as patents, trademarks, relationships within distribution channels. The competitive advantages provided by brand equity to a firm were pointed out which included increase in profit margin, premium pricing and reduction in promotion activities.

Buil et al., (2013) discussed the impact of brand equity on consumer behavior. The authors were specifically interested in measuring the influence of brand equity on consumers' willingness to pay price premiums, consumers' attitude towards brand extensions, brand preference and purchase intentions. In addition, the relationship between the brand equity dimensions, namely, perceived quality, brand awareness, brand association and brand loyalty, was also examined. Results of the study pointed out the interrelationship between these dimensions. Perceived quality, brand associations and brand loyalty played significant role in the creation of overall brand equity. Findings confirmed the positive effect brand equity had on consumer responses.

Atilgan et al., (2005) conducted a study with the objective of examining the applicability of Aaker's renowned brand equity model. It was hypothesized that the four dimensions of brand equity as proposed by Aaker, namely, brand loyalty, perceived quality, brand awareness and brand association, had a significant amount of influence on brand equity. Analysis of the data collected however revealed that out of the four dimensions, only brand loyalty had a strong effect

on brand equity. The influence of perceived quality, brand awareness and brand association was found to be significantly low. On the other hand, results showed that all four dimensions were interlinked with one another. In accordance with the findings of the study, it was suggested by the authors that marketing managers should focus on increasing brand loyalty which will ultimately lead to increase in brand equity of the firm.

In their paper, Yoo et al., (2000) explored the role of selected marketing mix elements in building brand equity. Results of data analysis were in support of the proposed link between marketing activities and the dimensions of brand equity. For consumers who associate price to quality, frequent price cuts may lead them to have low product quality perception thereby reducing brand equity. Good store image and intensive distribution strategy also played essential role in creating strong brand equity. Finally, the authors highlighted the importance of investing in advertising to increase the brand equity of a firm.

Applying Aaker's and Keller's conceptualization of brand equity, Yoo & Donthu (2001) conducted a multistep research study with the major objective of developing and validating a multidimensional consumer-based brand equity measurement scale. To enhance the scale's generalizability across multiple cultures and product categories, a total of 1530 respondents belonging to different cultures were made to examine 12 brands from three different product categories. After a series of analyses were done on the collected data, a brand equity measurement scale was developed consisting of 10 items relating to the four dimensions of brand equity, namely, brand loyalty, perceived quality, brand awareness and brand association.

Recognising the importance of brand equity and lack of a tool to measure it, Lassar et al., (1995) carried out a research study with the main objective of developing an instrument that will facilitate the marketers in measuring and monitoring the brand equity of their products. The instrument developed in this study is based on the categorisation of brand equity into five dimensions, namely, performance, value, social image, trustworthiness and commitment. According to the authors, in order to improve brand equity, firms should carefully manage all five dimensions. Halo effect was found to occur across the five dimensions. This implies that if brand performs favourably in terms of one dimension, the remaining dimensions are also expected to exhibit the same by the consumers.

In a study by Cobb-Walgren et al., (1995), the relationship between brand equity, brand preference and purchase intention was investigated. The study also tried to provide some insights on the role of advertising in creating brand equity. Two sets of brands were selected, one each from service and product category and included brands that had accommodated different amounts on their advertising campaigns. It was found that in both cases, the brand that had higher advertising spending was able to generate a greater level of brand equity. In turn, the brand with stronger brand equity was able to have a positive effect on consumer preferences and purchase intentions. The findings clearly indicated the influence brand equity had on consumer preferences and intentions.

Many studies relating to examining the impact of brand equity on consumer buying behavior have been carried out in other countries. However, research investigating the influence of this key asset on purchase decisions of consumers in India is still lacking. Furthermore, relationship between brand equity and its four dimensions have not been analysed adequately. Therefore, present study has been conducted to provide insights to the role played by brand equity in influencing buying behavior among Indian consumers. Additionally, it also makes an effort in understanding the relationship between brand equity and its dimensions.

Theoretical Framework and Hypotheses Development

Brand equity and its dimensions

There is no consensus regarding the meaning of brand equity. It is a concept with numerous definitions. To simplify the matter, these definitions can be broadly categorised into two approaches. First, brand equity from a consumer perspective and second, brand equity from a financial perspective (Buil et al., 2013). The former is an approach used by marketers and it views brand equity as the relationship that exists between customer and brand. The later, on the other hand, explains brand equity as "something that accrues to the brand owners"(Wood, 2000).

Aaker (1991) defined brand equity as, "a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers". He also stated that brand equity is a multidimensional concept consisting of brand loyalty, brand awareness, perceived quality, brand associations and other proprietary brand assets. On the other hand, Keller (1993), explained customer-based brand

equity as the variation in consumer responses toward the marketing of a brand resulting from brand knowledge. If a consumer exhibits positive behaviour in response to the marketing activities related to a brand then, the brand is said to have positive customer-based brand equity and vice versa.

Brand equity results in certain privileges being conferred upon a product by the brand name either in terms of increment in the perceived utility or desirability of the product (Lassar et al., 1995). In addition to this, some other benefits offered by brand equity to the firm include enhancing the effectiveness of marketing efforts of the firm, loyalty towards the brand, premium pricing, less requirement of promotional activity, ease in pursuing brand extensions, trade leverage and competitive advantage (Aaker, 1991). Brand equity is, therefore, an invaluable asset to a firm.

Brand loyalty, brand awareness, perceived quality and brand associations are the four key dimensions widely accepted and applied by many researchers while conducting customer-based brand equity research (Atilgan et al., 2005; Buil et al., 2013; Koapaha & Tumiwa, 2016; Siali et al., 2016; Yoo et al., 2000). Brand loyalty is defined as "a measure of the attachment that a customer has to a brand" (Aaker, 1991). Consumer's ability to recall a brand and recognise it with ease among the many competitors in the market is brand awareness (Keller, 1993). Perceived quality has been explained as, "consumer's judgment about the superiority or excellence of a product" (Zeithaml, 1988). According to P.L. Chang & Chieng (2006), any information relating to a product or service in the mind of the consumer that leads to some form of association being generated between the product or service and the consumer's memory is termed as brand association.

Brand Loyalty

Oliver (1999) defines brand loyalty as, "a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior." According to Aaker (1991), brand loyalty is the core of a brand's equity. Equity of a brand is weak if customers show little concern to brand name and make their purchases on the basis of features, price, and convenience. On the other hand, if purchase of a brand is made regardless of the existence of competitors with superior features, price, and convenience, equity of that brand is said to be strong. Reduced marketing costs, trade leverage, ease in attracting

new customers, and time to respond to competitive threats are the benefits of having a loyal customer base. As a result of the above discussion, the following hypothesis is posited:

H1: Brand loyalty has a positive significant relationship with brand equity.

Brand Awareness

Brand awareness has been described as, "the ability of a potential buyer to recognize or recall that a brand is a member of a certain product category"(Aaker, 1991). According to him, the role of brand awareness in brand equity is determined by two factors: context and the level of awareness that is achieved. At the highest level of brand awareness, a brand acquires strong competitive advantage. This implies that no other brands will be taken into consideration while making purchases. Keller (2013) identified brand awareness as one of the sources of brand equity. He opined that in order for customer-based brand equity to occur, the consumers needed to have a high level of awareness and familiarity with the brand. In addition, some strong, favourable, and unique brand associations in the consumers' memory are also needed. As a result of the above discussion, the second hypothesis is as follows:

H2: Brand awareness has a positive and significant relationship with brand equity.

Perceived Quality

Perceived quality is "often at the heart of brand equity"(Keller, 2013). As mentioned earlier, it is described as, "the customer's perception of the overall quality or superiority of a product or service with respect to its intended purpose, relative to alternatives"(Aaker, 1991; Zeithaml, 1988). Advantages offered by high perception of quality include a strong reason to buy, differentiation from competitors, premium pricing, aid in gaining channel members' interests, and brand extensions (Aaker, 1991). Consequently, it is used as the basis of marketing programmes designed to enrich brand equity (Aaker, 1992). As a result of the above discussion, the third hypothesis is as follows:

H3: Perceived quality has a positive and significant relationship with brand equity.

Brand Association

Brand association has been defined as, "anything linked in memory to a brand"(Aaker, 1991).Similarly, Keller (2013) referred to brand association as, "the other informational nodes linked to the brand node in memory and contain the meaning of the brand for consumers". According to Cheng-Hsui Chen (2001), in comparison to the other above mentioned dimensions of brand equity, brand association plays a key role in building strong brand equity. High brand equity is an indication that the consumers have many positive and strong associations related to the brand (Yoo & Donthu, 2001). It is important that marketers ensure that consumers hold some strong, favourable, and unique brand associations in order to create the differential response which ultimately leads to consumer based brand equity (Keller, 2013). As a result of the above discussion, the fourth hypothesis is as follows:

H4: Brand association has a positive and significant relationship with brand equity.

Consumer Buying Behavior

Consumer buying behavior has been referred to as," the study of how individuals, groups, and organizations select, buy, use, and dispose of goods, services, or experiences to satisfy their needs and wants" (Kotler & Keller, 2012). A brand with strong equity has a higher possibility of eliciting positive consumer response in comparison to one with poor brand equity. As mentioned earlier, consumers' responses are more likely to be favourable toward a product and its related marketing activities when the brand has positive consumer-based brand equity (Keller, 2013). In this study, consumer buying behavior is examined in terms of three aspects: willingness to pay price premium, brand preference, and purchase intention.

Willingness to pay price premium is, "the amount a customer is willing to pay for his or her preferred brand over comparable or lesser brands of the same package/size/quantity" (Netemeyer et al., 2004). Brands with strong equity have positive influence on consumer behavior which is reflected in the brand's ability to charge price premiums from their consumers (Hoeffler & Keller, 2003). Consumers of such brands are also less sensitive to price increase or decrease. Past literatures have found brand equity to have a significant impact on consumers' willingness to pay price premium (Buil et al., 2013; Lassar et al., 1995; Netemeyer et al., 2004).

Brand preference is when a consumer shows bias toward a particular brand repeatedly while making a purchase (H. H. Chang & Liu, 2009). On the other hand, purchase intentions may be defined as "an individual's conscious plan to make an effort to purchase a brand" (Spears & Singh, 2004). Higher brand equity results in greater brand preference and purchase intentions among the consumers (Chen & Chang, 2008; Cobb-Walgren et al., 1995; Myers, 2003).A study conducted by Uthayakumar & Senthilnathan, (2011) was also able to establish a significant positive relationship between brand equity and consumer's purchase intentions. In view of the above discussion, the fifth, sixth, and seventh hypotheses of the study are as follows :

H5 : Brand equity has a positive and significant relationship with consumers' willingness to pay price premium.

H6 : Brand equity has a positive and significant relationship with brand preference.

H7 : Brand equity has a positive and significant relationship with purchase intentions.

Based on the theoretical framework, the conceptual model is as given below:

Figure-1 : Research Conceptual Model Adopted from Buil et al., (2013)
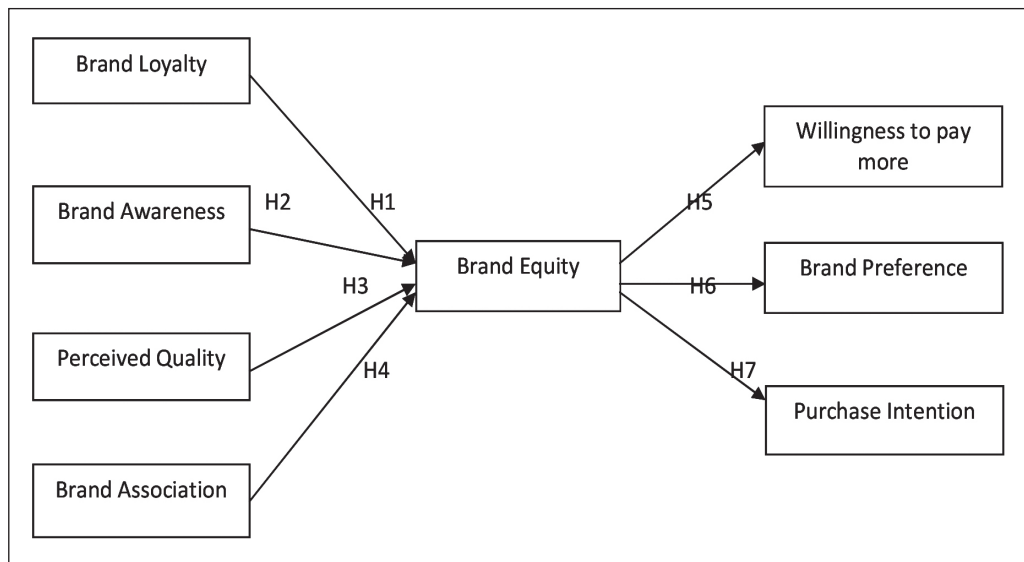
Source : Author's Own Model.

Research Methodology

Two different brands of tea were selected for the purpose of the study: Dweller and Lipton. Population consisted of consumers of the two selected brands, residing in Imphal East and West districts of Manipur. Primary data was collected via a structured questionnaire which was distributed online through various social media platforms: Whatsapp, Facebook, and Instagram. Hard copies were also circulated. Items to measure brand loyalty, perceived quality, brand awareness, and brand association, were adopted from the scale developed by Yoo & Donthu (2001). Willingness to pay price premium, brand preference, and consumer purchase intention measures, on the other hand, were adopted from the works of Netemeyer et al., (2004), Sirgy et al., (1997) and Erdem et al., (2006) respectively. Five-point rating scale was used with options ranging from 1 (strongly disagree) and 5 (strongly agree). Convenience sampling method was used to select the respondents. A total of 150 questionnaires were distributed. Out of the 150 respondents who participated in the study, 146 were found to be complete and valid. After thorough checking and editing, the data was entered and analysed in IBM SPSS 26. Various statistical methods were used, namely, frequencies, correlations, and regression.

Findings and Discussion

Table-1 : Descriptive Statistics of the Respondents' Profile

Measure	Items	Frequency	Percentage
Gender	Male	46	31.5
	Female	98	67.1
	Others	2	1.4
Age	18-25 years	31	21.2
	26-33 years	91	62.3
	34-41 years	14	9.6
	42-49 years	3	2.1
	50 & above years	7	4.8
Occupation	Unemployed	13	8.9
	Student	52	35.6
	Housewife	3	2.1
	Government Service	32	21.9
	Private	27	18.5
	Self Employed	19	13.0

Demographic characteristics of the respondents, viz. gender, age, and occupation, have been shown in Table 1. It has been found that 67.1 per cent of the respondents are female, 31.5 per cent are male, and the remaining 1.4 per cent is included in 'Others' category. 62.3 per cent of the respondents fall in 26-33 years age group, 21.2 per cent in 18-25 years age group, 9.6 per cent in 34-41 years age group, 4.8 per cent in 50 & above years age group, and the remaining 2.1 per cent in 42-49 years age group. With regard to occupation of the respondents, majority of them are students comprising 35.6 per cent, followed by government employees consisting of 21.9 per cent, private employees representing 18.5 per cent, 13.0 per cent are self employed, 8.9 per cent are unemployed, and 2.1 per cent are housewives.

Table-2 : Reliability Analysis

Variables	No. of items	Cronbach's alpha
Brand Loyalty	3	.831
Perceived Quality	2	.704
Brand Awareness	2	.606
Brand Association	3	.680
Brand Equity	4	.845
Willingness to pay price premium	2	.764
Brand Preference	3	.919
Purchase Intention	3	.873

Source : Primary Data.

Reliability analysis is the measurement of internal consistency of the constructs in the study. According to Junoh & Yacob (2011), variables with Cronbach's Alpha value exceeding 0.70 is regarded as being reliable, while those with a value of 0.70-0.60 are acceptable, and those with a value of less than 0.60 are considered as unreliable. As shown in Table 1, Cronbach's Alpha for all variables has been found to be acceptable, ranging from .919 for brand preference to .606 for perceived quality.

Pearson correlation was performed in order to test the correlation between the variables i.e. brand loyalty, perceived quality, brand awareness, brand association, brand equity, willingness to pay price premium, brand preference, and purchase intention. According to (Lind et al., 2010), there is said to be strong

<div align="center">

Table-3 : Pearson Correlation Analysis

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Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Brand Loyalty	1							
(2) Perceived Quality	.629**	1						
(3) Brand Awareness	.222**	.485**	1					
(4) Brand Association	.194*	.412**	.468**	1				
(5) Brand Equity	.606**	.593**	.383**	.182*	1			
(6) Willingness to pay price premium	.519**	.370**	.147	-.065	.489**	1		
(7) Brand Preference	.797**	.643**	.298**	.241**	.701**	.567**	1	
(8) Purchase Intentions	.683**	.527**	.348**	.264**	.657**	.525**	.772**	1

** Correlation is significant at the 0.01 level (2-tailed)

 *Correlation is significant at the 0.05 level (2-tailed)

correlations when r = 0.50 to 1.0 or r = -0.50 to -1.0, which is an indication of a highly dependable relationship. As shown in table 2, the correlations between brand loyalty, perceived quality, brand awareness, and brand association with brand equity were found to be significant at the 0.01 and 0.05 levelsand were also positively correlated. Brand loyalty was revealed to have the strongest correlation with brand equity (r = .606**, p <0.01), followed by perceived quality (r = .593**, p < 0.01), brand awareness (r = .383**, p < 0.01), and brand association (r = .182*, p < 0.05). Similarly, willingness to pay price premium, brand preference, and purchase intention were also found to have significant and positive relationship with brand equity. Brand preference had the highest correlation value (r = .701**, p < 0.01) followed by purchase intention (r = .657**, p < 0.01), and willingness to pay price premium (r = .489**, p < 0.01).

Based on results of multiple regressions, H1, H2, H5, H6, and H7, have been accepted at p < 0.05. H1 proposed that there was a significant and positive relationship between brand loyalty and brand equity. . Results were found to be significant (β = .402, t-value = 5.060, p < 0.05), hence H1 was accepted.H2 was also supported as results (β = .284, t-value = 3.133, p < 0.05) proved that there existed a positive and significant relationship between perceived quality and brand equity. Further, H5, H6, and H7 hypothesized that brand equity has a significant and positive influence on willingness to pay price premium, brand

Table-4 : Regression Analysis

Hypothesis		Standardized β Coefficients	T	Sig.	Outcome
H1	Brand Loyalty → Brand Equity	.402	5.060	.000	Accepted
H2	Perceived Quality → Brand Equity	.284	3.133	.002	Accepted
H3	Brand Awareness → Brand Equity	.206	2.762	.007	Rejected
H4	Brand Association → Brand Equity	-.109	-1.531	.128	Rejected
H5	Brand Equity › Willingness to pay price premium	.489	6.725	.000	Accepted
H6	Brand Equity → Brand Preference	.701	11.805	.000	Accepted
H7	Brand Equity → Purchase Intentions	.657	10.467	.000	Accepted

Source : Primary Data.

preference, and purchase intentions respectively. Results supported H5, H6, and H7 whose p values were found to be < 0.05. On the contrary, H3 and H4 have been rejected implying that brand awareness and brand association had no significant relationship with brand equity.

Conclusion

The present study was undertaken with the main aim of analyzing the influence of brand equity on consumer buying behavior. It also examined the relationship between brand equity and its four dimensions, namely, brand loyalty, perceived quality, brand awareness, and brand association. Results of pearson correlation analysis revealed that all four dimensions were significantly and positively correlated with brand equity. Brand loyalty was found to have the highest correlation with brand equity. Brand equity was also found to be significantly and positively correlated with willingness to pay premium price, brand preference, and purchase intentions. Hypothesis testing was carried out through regression analysis. Based on the results of regression, H1, H2, H5, H6, and H7 were sustained, whereas H3 and H4 were rejected. More specifically, brand loyalty and perceived quality were revealed to have a significant and positive influence on brand equity. Accordingly, it can be inferred that among the four dimensions of brand equity, brand loyalty and perceived quality contribute significantly toward the generation of overall brand equity. As a result, we suggest that marketers pay close attention to building and maintenance of loyalty

toward their brand. It is also suggested that marketers channel their efforts in delivering quality products to their consumers. Further, brand equity was found to have a significant and positive influence on willingness to pay price premium, brand preference, and purchase intentions, proving the role played by brand equity in influencing consumer buying behavior. A business with strong brand equity is more likely to successfully elicit positive buying behaviour from the consumers in the forms of increment in willingness to pay price premium, brand preference, and purchase intentions.

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