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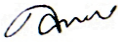
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Perception of Middle Level Managers in Service Organizations towards ‘Civic-Virtue’

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Abstract:

Organizational Behavior is related to the study of Individual and the Group in an organizational structure. People with different backgrounds, culture and religion are expected to work together in an organization effectively and efficiently. The study considered one of the factors of “Organizational Citizenship Behavior towards Organization” (OCB-O) i.e., ‘Civic-Virtue’. Data was collected from the middle level managers of service organizations from sectors like Health/Hospital, Insurance/Banking/Financial Services, Hotel/Hospitality, Education, Telecommunication/IT/Software Development and Miscellaneous Industries across NCR of Delhi. The study concluded that perceptions of employees regarding Civic-Virtue do not differ significantly on the basis of their gender, age and job tenure.

Key Words: *Organizational Citizenship Behavior, Civic-Virtue, Middle Level Managers, Service Organization*

Introduction

Organizational Citizenship Behavior (OCB) is behavior that works beyond assigned official duties and contributes to the well-being of organizations. OCB defines an individual’s voluntary commitment within an organization that is not related with his or her assigned official tasks. OCB may be linked to overall organizational efficiency, as employees’ behaviors at the workplace have important consequences in the organization.

It is one of the behavioral techniques under study for improvisation in many organizations worldwide. OCB is the way in which there may be direct or indirect involvement of senior executives with the middle level managers and other employees in their organizations. OCB may lead to an open communication and a clear

understanding in every employee of his/her role in the organization.

It is interesting to note that the term ‘Citizenship’ is being increasingly talked about in respect of business organizations. Initially, this term was associated with countries or states; but now there is a good deal of talk about it in the context of business organizations. Perhaps, there is a significant similarity between a state and a business organization.

Driven by values and different goals in mind, every state works for betterment, efficiency and development of its citizens. Similarly, in an organization, driven by different long-term goals, one may help every individual to understand her or his role’s importance in the organization. It drives employees to go beyond their assigned official tasks by making them

responsible citizens of their organizations. So, it may lead to the creation of a Corporate Citizen (CC) and not a mere employee, or an executive. Having a lot of employees in a corporate organization is not good enough, but having “good citizens’ in the organization is what matters in the long run.

Civic Virtue

Virtue is a disposition of character or mind to think or act in a morally right way, towards the right things at the right time. Civic virtue is that part of virtue that relates to the connection between citizens and state, or may be less formal, between citizens and their community.

Civic virtue is the way that good citizens should assume for proper functioning of the society. Civic virtue, thus, is that part of virtue that makes one forgo one’s own and other people’s interests for betterment of the community. The emphasis is on public interest; and the value of civic virtue is in the fact that it benefits, or intends to benefit, a wider community.

Civic virtue is the cultivation of habits of personal living that may be important for the success of a community. It is the personal devotion for success of the community.

A successful society requires good citizens, citizens who live more for each other than for narrow personal interests. Civic virtue is also the dedication of citizens to the common welfare of their community even at the cost of their individual interests.

A number of institutions and organizations promote the idea of civic virtue in the older democracies. Examples of civic virtue can be seen in daily affairs such as attending meetings and keeping up with what is going on within the organization in general. Civic virtue may also be demonstrated on a larger scale by defending the organization’s policies and practices when they are challenged by an outside source.

Civic Virtue suggests that responsible employees participate in the political life of their organizations. For example, the employees are involved to attend meetings, training and other activities organized by their organizations. By involving in these activities, employees would remain alert and updated with the latest information of the organization and the business environment surrounding it.

Review of Literature

Organ (1988) described Organizational Citizenship Behavior (OCB) as one where individuals voluntarily help, assist and cooperate with others in the workplace, and thereby promote excellence of their employer without expecting reward for their behavior. OCB is a complicated phenomenon gradually emerging as an important issue of human behavior at work. Organ examined the nature of employees and suggested a number of new conclusions about the origins, effects, manifestations, measurement, and values. He described how to promote OCB and how to encourage employees to become or remain ‘good soldiers’. This study represents a major advance in expanding knowledge of OCB theory and its utility for both researchers and business people. Using eight independent research studies on the subject, Organ showed how the dominant, though not the only, predictor of “good citizen’ is job satisfaction; and examined how workers perceive job satisfaction in terms of highly individualized, instinctive evaluations of fairness in their workplace.

Organ (1990) described that management theorists from Chester Barnard to the present day have recognized that an essential condition of organization is a willingness of participants to “go beyond that which is required.” The construct that has been suggested for capturing such discretionary contribution is Organizational Citizenship Behavior (OCB). The measurement and theoretical structure of OCB is reviewed. The study of OCB indicated that neither positive nor negative affect adds

much explanatory power beyond cognitive appraisal. Organ stated that the correlation between job satisfaction and OCB reflected the dominant cognitive component in existing measures of job satisfaction.

MacKenzie, Podsakoff and Fetter (1991) investigated the effects of OCBs and objective sales productivity on managers' evaluations of salespersons' performance. Data was collected for a primary sample of 259 multiline insurance agents, as well as a cross-validation sample of 113 agents. Four dimensions of OCB and managerial assessment of their performance were considered. These dimensions comprised altruism, civic virtue, courtesy and sportsmanship. Results of analysis show that managers' evaluations of salespersons' performance are determined by altruism, civic virtue and objective productivity levels of salespersons; but managers generally pay more attention to the productivity of agents during critical periods of their sales careers.

Podsakoff et al. (2000) opined that the increased growth of research on OCBs had resulted in some conceptual confusion about the nature of the construct, and made it difficult for many researchers to keep up with developments in this domain. Authors critically examined the literature on OCB and other related constructs. They also took note of increasing interest in related concepts like extra-role behavior, pro-social organizational behavior, organizational spontaneity, contextual performance, etc. However, this rapid growth in research has resulted in the development of several problems, including the need to better understand the conceptual similarities and differences between various forms of citizenship behavior, as well as their antecedents and consequences. In this paper, authors have tried to address these issues, and also identified useful avenues for future research. At the same time, the authors put a note of caution i.e., the dramatic growth and diversification of OCB research into other management domains like HRM, strategic

management, international business and leadership, has led to some confusion preventing the development of literature as a coherent whole.

Farah, Zhong and Organ (2004) stated that western scholars had increasingly emphasized the importance of OCB; but, noticed that almost the entire body of empirical research on OCB was based on studies conducted in the United States, using US employees as samples. Taking an inductive approach, authors examined forms of OCB in People's Republic of China. From a diverse sample of 158 employees and managers in 72 state-owned, collective, foreign-invested, and private enterprises in China, the authors collected 726 OCB incidents that were commonly observed in the workplace and then subjected these to a content analysis to identify major forms of OCBs. Results of the analysis revealed 10 dimensions of OCB, with at least one dimension not evident at all in the Western literature, and four that do not figure significantly in established OCB measures. In addition to the five dimensions of OCB given by Organ, the authors have discussed five 'extended dimensions' viz., self-training, social welfare participation, protecting and saving company resources, keeping the workplace clean and interpersonal harmony. Results suggested that Chinese formulation of OCB differs from that of the West, and is embedded in its unique social and cultural context.

Bukhari et al. (2009) focused their study on the effects of three antecedents of OCB (altruism, conscientiousness and civic virtue) and their relationship with OCB in Pakistani corporate context. Data was collected on a random basis from employees of eight large insurance companies operating across Pakistan; and rated on the Likert-scale format ranging from 1 to 5. Results proved that all these antecedents had significant positive relationships with OCB.

Lo and Ramayah (2009) mentioned that the literature observed a shift in the dimensions of OCB. Data was collected through a survey

using a structured questionnaire to employees working in 10 large manufacturing companies in Malaysia. Study demonstrated a valid and reliable four-dimension scale for measuring OCB. It was found that only four dimensions of OCB, namely civic virtue, conscientiousness, altruism, and courtesy are capable of explaining sufficient variation in the construct being measured. Nonetheless, sportsmanship was not found to be a valid dimension in Malaysian context. The results of this study showed some interesting similarities and differences concerning the dimensionality of OCB. This study may be helpful to researchers in OCB related areas.

Tambe and Shanker (2014) mentioned that this study is an effort to understand the meaning, nature and scope of OCB and also attempted to review its various dimensions. Scholars on the subject have, in the past, discussed several dimensions of OCBs and motives for performing them. This study touches upon the five dimensions of OCB given by Organ (1988); and makes a fleeting reference to other dimensions also which were discussed by various scholars from time to time, including the “extended dimensions” stated by Farh, Zhong and Organ (2004).

Silva and Ranasinghe (2017) investigated the impact of OCB on “role conflict” in a leading paint company of Sri Lanka. The study was carried out as a cross-sectional study with a sample of 150 operational level employees who were directly involved in the production process. OCB was an independent variable and role conflict was a dependent variable. It was found that there was a strong positive impact of OCB on role conflict; but, sportsmanship, conscientiousness, courtesy, altruism were rejected. Only Civic-Virtue was identified as the most influential factor on OCB. The result assumes significance as the employees’ perception may have to be adequately taken care of by the management in the Sri Lankan context.

Dinka (2018) stated that a vast amount of research has been done on the relations of OCB and employees’ performance in western context, but there is a little or no empirical evidence in domestic context. The author proceeded on the assumption that geographical and cultural differences can bring about differences in OCB. A stratified random sampling technique was used to select 114 employees as the representative sample of the study. The findings showed that employees’ performance is correlated positively and significantly to the OCB dimensions. Furthermore, organizational justice problems and employee’s intention to leave the institution were found to be the major underlying reasons for imperceptibility of OCB among the employees under the study; but fairness perception, individual disposition and proper leadership styles were shown to be the major enabling factors for OCB among employees. The finding of the study showed that altruism, conscientious and civic-virtue dimensions of OCB are positively and significantly correlated with employees’ performance.

Gupta and Gupta (2019) stated that Organizational Citizenship Behavior has been an important construct in the areas of Behavioral Sciences, Psychology and Management. Thus, OCB has captured a volume of attention during previous decades. OCB refers to employee behavior that is additional effort, that increases organizational efficiency, and that is not explicitly considered by an organization’s reward policy. OCB facilitates change in the environment of a formal organization because activities related to OCB provide a relaxed environment and ensures better cooperation of employees. It is expected that with an organizational environment of OCB, the tension among employees is reduced and, therefore, the productivity and effectiveness of an organization are expected to increase.

On the basis of detailed review of literature, the inevitable conclusion is that business organizations cannot grow unless their employees willingly engage in OCBs.

Research Methodology

An objective to analyze the perception of employees regarding Civic-Virtue a factor of (Organizational Citizenship Behavior towards Organization) was identified based on the review of literature. The primary data was collected for the research. All the responses were collected through a structured Questionnaire (Fox and Spector, 2009).

Final sample included a total 306 respondents. Data collected from Middle level Managers of Service Organizations from Health/Hospital, Insurance/Banking/Financial Services, Hotel/Hospitality, Education, Telecommunication/IT/Software Development and Miscellaneous Industries across NCR of Delhi.

Hypotheses of the Study

Hypotheses were formulated to examine a proper insight in the relationship of employees' perception on various dimensions of Organizational Citizenship Behavior with demographic variables and to comparative analyze the extent of OCB among the employees of service organizations.

- H₀₁: Perception regarding Civic-Virtue does not differ significantly on the basis of Gender.
- H₀₂: Perception regarding Civic-Virtue does not differ significantly on the basis of Age.
- H₀₃: Perception regarding Civic-Virtue does not differ significantly on the basis of Job Tenure.

Data Analysis & Interpretation

The study was conducted in the NCR of Delhi. Table 1 gives the demographic profile of all the respondents included in the study.

Table 1: Profile of the Respondents

Particulars		Freq- uency	%
Total		306	100
Gender			
1	Male	170	55.6
2	Female	136	44.4
Age Groups			
1	Up to 40	193	63.1
2	40-60	92	30.1
3	More than 60	21	6.9
Industries			
1	Health/Hospital	33	10.8
2	Insurance, Banking & Financial Services	76	24.8
3	Hotel/Hospitality	30	9.8
4	Education	68	22.2
5	Telecommunication, IT & Software Development	74	24.2
6	Misc. Industries	25	8.2
Job Tenure			
1	5-10 Years	73	23.9
2	10-20 Years	136	44.4
3	More than 20 Years	97	31.7
Total		306	100

Total 316 respondents were approached for the survey. Some of the responses were incomplete or unengaged on the part of respondents. These responses were dropped before analysis and final analysis was done on total 306 responses.

● *Civic-Virtue*

One factor under OCB towards organization (OCB-O) is Civic-Virtue. It describes the nature and behavior of employees that indirectly contribute in improving work performance and efficiency of the organization.

It includes offering suggestions for improving work, decorating or beautifying the workplace for creating work-environment congenial, entertaining and escorting the company clients, and voluntary use of own vehicles for organization without expecting any compensation or reward in return.

Following six statements were asked to know how employees volunteered themselves for betterment of their organizations to assess the extent of OCB towards Civic-Virtue. The same

are described in Table 2. In this section, the respondents' perception towards organization were recorded, which indirectly contributes to

improving work performance and efficiency of the organization.

Table 2: Statements regarding OCB-O (Civic-Virtue)

Civic-Virtue	N	Mean	Standard Deviation
Drove, escorted, or entertained company guests, clients or out of town employees	306	2.43	1.279
Used own vehicle, supplies or equipment for employer's business	306	2.62	1.355
Offered suggestions for improving the work environment	306	3.71	1.117
Tried to recruit a person to work for your employer	306	2.64	1.276
Said good things about your employer in front of others	306	3.58	1.134
Decorated, straightened up, or otherwise beautified common work space	306	2.95	1.178
Overall Mean Score	306	3.23	

Table 2 shows that the mean score of "Offered suggestions for improving the work environment" and "Said good things about your employer in front of others" is above the neutral value i.e., 3.71 and 3.58 respectively. Hence, both the statements show that employees perform these activities frequently.

However, in respect of "Drove, escorted, or entertained company guests, clients or out-of-town employees", "Used own vehicle, supplies or equipment for employer's business", "Tried to recruit a person to work for your employer" and "Decorated, straightened up, or otherwise beautified common work space" seems to be low as the mean scores are below 3.

The overall mean score for Civic-Virtue is 3.23; and that means that the respondents depict these behaviors quite frequently as per their perception. So, it can be inferred that OCB towards Organization (Civic-Virtue) depicted by the respondents is quite frequent.

The results confirmed the study of MacKenzie, Podsakoff and Fetter (1991) and James, Velayudhan and Gayatri Devi (2010).

This study does not support the study of Podsakoff, Ahearne and MacKenzie (1997). Present study partially supports the study of Farah, Zhong and Organ (2004), Lo and

Ramayah (2009). Present study strongly supports the study of Silva and Ranasinghe (2017).

• Civic-Virtue & Gender

Here, the interest of the researchers was to analyze the composite responses of respondents for Civic-Virtue with regard to their gender. So, null hypothesis H_{01} was formulated and tested.

H₀₁: Perception of employees regarding Civic-Virtue does not differ significantly on the basis of Gender.

The null hypothesis H_{01} was tested using t-test, as this is a robust test to check the hypothesis if group sizes are comparable.

This hypothesis checks whether the perception of the respondents towards Civic-Virtue differs significantly on the basis of their gender. Results of data analysis are given in table nos. 3 & 4.

Table 3: OCB towards Organization (Civic-Virtue)

OCB towards Organization	Gender	N	Mean	Std. Dev.
Civic-Virtue	Male	170	3.01	.824
	Female	136	2.96	.750

Table 4: Civic-Virtue & t-statistics

Civic-Virtue		t-statistics
Levene's Test for Equality of Variances	F	.976
	Sig.	.324
t-test	t-statistic	.581
	Sig. (2-tailed)	.562
	Mean Difference	.053
	Std. Error Difference	.091

Tables 3 and 4 show that mean value of Civic-Virtue is higher in males (3.01) in comparison of females (2.96), as perceived by the respondents; but the difference is not significant as the value of t-statistic is '.581', which is not significant at 5% level of significance. So, the result provides support for hypothesis H01. It can be inferred that the perceptions of male and female employees regarding Civic-Virtue do not differ significantly. Present study supports the study of Wayne, Shore and Liden (1997) but does not support the study of Ilie (2014). Present study partially supported the study of Jepson and Rodwell (2007).

- **Civic-Virtue & Age of the respondents**

The next demographic variable is Age. It is important to analyze the composite responses of respondents for Civic-Virtue with regard to different categories of age of the respondents. For the purpose of the study, it is also important to know whether the perceptions of different age groups of employees are similar towards OCB. To check this, ANOVA is applied. Table 5 shows the mean values of different categories of age.

Table 5: Civic-Virtue & Employee's Age

Age of Respondent	Mean	Standard Deviation
Up to 40 Yrs.	2.98	.800
40-60 Years	3.03	.718
60 Years & Above	2.92	1.019

It can be seen that the age category of 40-60 has maximum mean value (3.03) followed by the age groups of up-to 40 years and 60 years and above. It is further proposed to analyze the data to test for statistical differences in mean scores among categories of age using one-way ANOVA. For this, the null hypothesis H₀₂ was formulated. The hypothesis was tested using ANOVA.

H₀₂: Perception of employees regarding Civic-Virtue does not differ significantly on the basis of Age.

The null hypothesis H₀₂ checks whether the perception of the respondents towards Civic-Virtue differs significantly or not on the basis of Age. The results of the analysis are presented in table no.6.

Table 6: ANOVA (Civic-Virtue & Employees' Age)

Civic-Virtue	Sum of Squares	Mean Square	F	p-value
Between Groups	.263	.132	.209	.811
Within Groups	190.596	.629		
Total	190.859			

Tables 6 shows that different categories of age have different mean perceptions regarding Civic-Virtue. But, the difference is not significant, as p-value is '.811', which is not significant at 5% level of significance. The p-value is the probability of getting a result at least as extreme as the one that was actually observed, given that the null hypothesis is true. So, the result shows evidence in favour of hypothesis H₀₂ and, therefore, we cannot accept the alternative hypothesis. It may be inferred that the perceptions of employees of different categories of age regarding Civic-Virtue do not differ significantly.

- **Civic-Virtue & Job Tenure**

The next demographic variable is Job Tenure or working experience in an organization. It is important to analyze the composite responses

of respondents for Civic-Virtue with regard to job tenure. For the purpose of the study, it is also important to know whether the perceptions of employees working for different job tenure are similar towards OCB. To check this, ANOVA is applied.

Table 7: Civic-Virtue & Job Tenure

Job Tenure	Mean	Standard Deviation
5-10 Years	2.96	.866
10-20 Years	2.98	.744
More than 20 Years	3.03	.803

Table 7 shows the mean values of different job tenure. It is further proposed to analyze the data to test for the statistical differences in mean scores among category of age using one-way ANOVA. For this, null hypothesis H_{03} was formulated. The following hypothesis was tested using ANOVA.

H₀₃: Perception of employees regarding Civic-Virtue does not differ significantly on the basis of Job Tenure.

The null hypothesis H_{03} checks whether the perception of the respondents towards Civic-Virtue differs significantly or not on the basis of different Job Tenures. The results of the analysis are in table no.8.

**Table 8: ANOVA
(Civic-Virtue & Job Tenure)**

Civic-Virtue	Sum of Squares	df	Mean Square	F	P-value
Between Groups	.236	2	.118	.187	.829
Within Groups	190.624	303	.629		
Total	190.859	305			

Tables 8 shows that the mean values of different Job Tenure have different values as perceived by the respondents. But the difference is not significant, as p-value is '.829' which is not significant at 5% level of significance. The p- value is the probability of getting a result at least as extreme as the one

that was actually observed, given that the null hypothesis is true. So, the result provides support for the null hypothesis H_{03} and, it may be inferred that the perceptions of employees with different job tenures regarding Civic-Virtue do not differ significantly. Present study supports the study of Wayne, Shore and Liden (1997).

Conclusion

It is concluded in this study that hypotheses H_{01} to H_{03} formulated for Organizational Citizenship Behavior towards Organization (OCB-O) do not exhibit significant statistical differences in perceptions of Middle Level Managers of Service Organizations in India. It may be inferred that perceptions of Middle Level Managers of Service Organizations in India regarding Civic-Virtue do not differ significantly on the basis of their gender, age and job tenure. By using primary data collected from 306 middle level managers of Large Corporate Service Organizations (LCSOs) operating in the National Capital Region of Delhi, analysis of the employees' perceptions regarding Civic-Virtue which is related with employees' efforts which contribute 'indirectly' to the performance of organizations, it was found that employees perform numerous OCB activities frequently for development of their organizations; and they contribute significantly for smooth functioning of their organizations. This ultimately helps in achieving the organizational objectives, including the primary goal of maximizing shareholders' wealth in the long run.

A significant dimension of OCB viz., Civic-Virtue is depicted by employees quite frequently. The employees of large service organizations show these behaviors repeatedly in their working life. The analysis of the present study confirms the study of MacKenzie, Podsakoff and Fetter (1991), James, Velayudhan and Gayatri Devi (2010). This study does not support the study of Podsakoff, Ahearne and MacKenzie (1997). Present study

partially supports the study of Farah, Zhong and Organ (2004) and Lo and Ramayah (2009). Present study strongly supports the study of Silva and Ranasinghe (2017).

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Valuation of E-commerce Companies in Retail Sector in India

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Abstract:

E-commerce is a booming segment of the retail sector in India which has not yet been evaluated on the valuation metrics. This research paper aims to identify the most reliable combination of Operating Performance Indicators (OPI) that better explains the valuation multiples. From the point of view of investors, for investment purposes, the paper also aims to identify the expected value of Reliance Retail IPO if the various combination of operating performance indicators is significant at 5% to explain the valuation multiple. The analysis finds that none of the set of independent variables considered in this study significantly explains the valuation multiple. Therefore, the expected value for Reliance Retail IPO could not be deduced. The research paper finds the existence of multi-collinearity between the independent variables of valuation multiples with comparatively high R-square values. While the valuation multiples with minimal or zero R-square values are nearly uncorrelated, the research paper recommends further improvement by incorporating other operating performance indicators to the valuation multiples that can help investors identify the true valuation of the e-commerce companies in the retail sector in India.

Key Words: Valuation Multiple, Operating Performance Indicator (OPI), E-commerce, Retail Sector

Introduction

Retail e-commerce sector in India is still in its infancy and has higher potential for growth which makes investment in this sector more lucrative. Indian retail market is the fifth largest global destination (TechSci Research, 2019). According to the Department of Industrial Policies and Promotion (DIPP), the retail sector in India received investment of \$1.66 billion during the period 2000 to 2019. In addition to this, India has the highest youth population who are inclined towards online shopping; and dependency of these users on the internet is increasing day by day. The government of India has also allowed 100% Foreign Direct Investment (FDI) in the online retail goods and

services sector (TechSci Research, 2019). These incentives are taking Indian retail e-commerce sector towards a rapid boom which is expected to capture 7% of Indian Retail market by 2021 (TechSci Research, 2019).

Big Indian Players are trying to cash this growing segment of retail market, such as: Reliance Retail – Ajio, Reliance Digital, Reliance Fresh; Aditya Birla fashion – Pantaloons, More Department Store; Trent by TATA – Star Bazaar, Tatacliq, Shopperstop, Indiamart etc. Recently, Mukesh Ambani in the Annual General Meeting (AGM) of Reliance Industries announced that the IPO of Reliance Retail Ltd is expected to be launched this year. This information took the stock price of

Reliance Industries Ltd. on a Rs.100 jump in just a week's time and offered investors attractive avenues for investment in Reliance Retail IPO.

Although companies in Indian retail e-commerce sector are under losses, they have very high potential to expand and generate profits in future. Thus, what should be the right price for buying Reliance Retail IPO? How can an investor deduce the true value of a non-listed firm like Reliance Retail which is expected to bring its IPO? Based on these questions, this research examines the valuation of Reliance Retail Ltd for its expected IPO, based on the relative valuation of their public limited counterparts in India. This study also aims to identify the set of independent variables that better explains the valuation multiples.

The involvement of diverse factors in the valuation of a firm makes the valuation process more complex. According to corporate finance theory, the economic value of any investment is the present value of its future cash inflows (Brealey, Myers, & Allen, 2007.) The most commonly used valuation method is the Discounted Cash-Flow (DCF) method, which is dependent on certain assumptions, and is also based on the company's past accounting history and performance. A slightest change in such underlying assumptions can give vastly different results. Another method like, Dividend Discount Model is based on dividends and net operating profit margins of a company, which again is not the right technique of valuation for e-commerce companies as they are at the early stage of the company's life cycle wherein there are generally facing losses. Therefore, a dividend discount model cannot be applied to a loss-making firm.

The firms in the e-commerce sector are always faced with the dilemma of choosing between growth and profitability. The companies in the retail e-commerce sector value growth of sales more than profitability in their initial stages of the business lifecycle because it is more important to develop a sizable market share that

marks their presence in the retail sector, which requires more investments initially to cover-up/finance initial losses.

An unlisted company may be valued based on the valuation of their peer listed companies, which have registered profits and are running more or less in the same stage of the business lifecycle. Further, as the e-commerce segment under the retail sector develops, the focus of companies will shift from revenues to profitability. Therefore, the valuation of an unlisted firm can be based on the multiples of other listed retail e-commerce firms using a Relative Valuation Model. This research paper uses various regressed multiples to identify the true value of the expected Reliance Retail IPO.

Literature Review

In a prominent research, the authors evaluated 145 companies from 13 different sectors on valuation multiples and identified that Price to Earnings multiple provides the best price forecast than the other three multiples i.e., Price to Sales, Price to Book Value, and Price to Cash Flows (Sehgal & Pandey, 2010). In another research on valuation multiples, the author identified that combining several valuation outcomes of a firm based on the historical accounting performance, measure of the comparable listed firms improves the valuation accuracy of the valuation multiples (Yoo, 2006).

Many researches (Waldron & Hubbard, 1991), (Hall & Hofer., 1993), (Gompers, 1998(Revised January 1999)) have highlighted an extent gap in entrepreneurial and corporate finance literature on the valuation of firms. There are various key factors that influence the valuation of a firm, and which drive the investment process. In another research, it is found that expected revenue growth is the vital operating performance indicator for e-commerce firms (Trusculescu, Draghici, & Albulescu, 2015). A research on the evolution of e-tailing companies identified the lifecycle of e-commerce firms specifically for its

e-tailing segment based on the technology effect that defines the early stage of the e-tailing companies as the Hype and Experimentation. According to the author, the companies in this stage encounter disruptive innovation, erratic changes, new opportunities with high failure rates, and competition is majorly based on functionality. The author also mentions that e-tailing firms gradually start sustaining the venture as they step into the succeeding stages (Williams, 2009).

In another research paper on valuation of companies, it is found that DCF is a very powerful tool to analyse even complex situations, but it is subject to massive assumptions bias. The author also proved that even a slight change in the underlying assumption of an analysis can drastically alter the valuations results (Steiger, 2008). Another author in his research paper tried to identify a valuation methodology using modified DCF method wherein the risk linked to a start-up is expressed through an individual beta coefficient as a component of discount factor for the valuation of start-up firms at their early stages of business lifecycle specifically for high-tech firms (Festel, Wuermseher, & Cattaneo, 2013).

Aswath Damodaran in his research paper on valuation of young, start-ups and growth companies mention that the traditional or standard techniques either do not work or give unrealistic numbers for such firms' valuation. Therefore, the author used a combination of data on more matured companies in the business and the company's own forecasted revenues, earnings and cash-flows. The author also established a process for determining the discount rate adjusted for the possibility of failure to ascertain the value of private capital today and in doing so he argued that the venture capital approach is flawed and should be replaced (Damodaran, 2009).

Damodaran in his book on Investment Valuations has described in detail on the use of revenue multiple and sector specific multiples.

The author has presented the operating performance indicators or companion variables for each multiple based on the statistically significant results. This paper follows the path of Damodaran with the aim to identify the operating performance indicators suitable for each valuation multiple.

Objectives of the Study

The objectives of the study are as follows:

- To identify the most reliable/ robust multiples for valuation of e-commerce retail firms from the given set of independent operating performance indicators in the e-commerce segment in the retail sector in India.
- To identify the price range for the stock of Reliance Retail Ltd which reflects its true and fair price/ value from the derived predicted line of each multiple

Therefore, in this research paper, each valuation multiple is regressed for a combination of operating performance indicators or independent variables and analysed on the significance level of 5%.

Hypotheses of the Study

Null hypotheses are as follows:

- H₀₁: There is no relationship between the Price to Sales multiple and the selected independent variables.
- H₀₂: There is no relationship between the Price to Sales multiple and the selected independent variables.
- H₀₃: There is no relationship between the Price to Book value multiple and the selected independent variables.
- H₀₄: There is no relationship between the EV to Sales multiple and the selected independent variables.
- H₀₅: There is no relationship between the EV to EBITDA multiple and the selected independent variables.

Corresponding alternate hypotheses were formulated accordingly.

Research Methodology

The data on financial performance of Indian companies has been sourced from the software Prowess maintained by the Centre for Monitoring Indian Economy Pvt Ltd (CMIE). The data for each financial year is extracted from annual reports of the respective public limited companies. The annual prices of each firm as on 1st July of each year are fetched from the historical data of website MoneyControl.com after adjusting for Stock Splits and Stock Dividend. The gap in the time period of valuation variables and the stock price is taken to reflect the effect of such information on the stock prices in full capacity.

Multivariate regression has been used for analysis wherein valuation metrics or multiples are dependent variables and key operating performance indicators are independent variables. In total, 4 valuation multiples have been regressed against their respective 3 key operating performance indicators. The general regression equation is as follows:

$$\text{Valuation Multiple} = \alpha + \beta_0(\text{OPI}_0) + \beta_1(\text{OPI}_1) + \beta_2(\text{OPI}_2) \dots \dots \quad \text{Eqn(i)}$$

Table no. 1 exhibits the list of dependent and independent variables.

Table 1: List of Dependent and Independent Variables

Dependant Variable	Independent Variable(s)	Signs	Measurement of Independent Variable
Price to Book Value Ratio	Return on Equity	+	$\frac{\text{Net Income}}{\text{Book Value}}$
	Growth in Earnings	+	$\frac{\text{Net income (t)} - \text{Net income}(t - 1)}{\text{Net Income}(t - 1)}$
	Return on Assets	+	$\frac{\text{Net Income}(t)}{\text{Total Asset}}$
Price to Sales Ratio	Net Income Margin	+	$\frac{\text{Net Income}}{\text{Sales}}$
	Growth in Sales	+	$\frac{\text{Net Sales (t)} - \text{Net Sales}(t - 1)}{\text{Net Sales}(t - 1)}$
	Selling Expense Ratio	+	$\frac{\text{Selling Expense}}{\text{Net Sales}}$
EV to EBITDA	Operating Income Margin	+	$\frac{\text{Profit before Interest, dep \& tax}}{\text{Net Sales}}$
	Inventory Turnover Ratio	+	$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$
	Return on Capital Employed	+	$\frac{\text{Net Income}}{\text{Total Equity} + \text{Long term Debt}}$
EV to Sales	Net Income Margin	+	$\frac{\text{Net Income}}{\text{Net Sales}}$
	Selling Expense Ratio	+	$\frac{\text{Selling Expenses}}{\text{Net Sales}}$
	Growth in revenue/sales	+	$\frac{(\text{Net Sales}(t) - \text{Net Sales}(t - 1))}{\text{Net Sales}(t - 1)}$

Table no. 2 presents list of 18 retail companies listed on NSE.

Table 2: Retail Companies Listed on NSE

S. No.	Name of Company	Description	Regression
1	Reliance Retail	Reliance Digital, Reliance Fresh, Ajo, Reliance Smart, Reliance mall, Reliance Jewels	Included
2	Future Life	Central (brand new), Brand Factory	Included
3	Trent	Westside, Star Bazaar, Tatacliq	Included
4	Aditya Birla Retail	Madura F&L, Pantaloons F&L	Included
5	Shoppers Stop	e-tailing and retail store	Included
6	Avenue Supermart	Dmart	Included
7	Provogue	Empire Mall, More	Included
8	V2 Retail	Godspeed, Herrlich, Glamora, ebellia, Honey Brat	Excluded
9	V-mart	Apparel, Homemart, Kirana, Footmart	Included
10	Cantabil	Crozo, Kaneston, lil potatoes	Included
11	Vaibhav Global	Shop lc B2C (USA), TJC(UK), STS wholesale B2B(USA)	Included
12	Kewal Kiran	Killer, Lawman Pg3, Integrity, K-lounge, Easies	Included
13	Future Enterprise	Future supply chain, Future generali, Goldmohur and Apollo Mills, Work Store, Future Media	Excluded
14	Mandhana Retail	Being Human	Excluded
15	Intrasoft Tech	123store.com (USA, Canada)	Excluded
16	Indiamart Intermesh	Indiamart, talexo	Included
17	Infoedge	Naukri.com, jeevansaathi.com, 99acres.com, shiksha.com	Excluded
18	Infibeam Avenues	Infibeam.com, buildabazar.com, CCAvenue, BillAvenue	Included

Out of the listed 18 companies, the research study has included 12 companies for analysis. The remaining 6 companies are excluded because:

- Infoedge, V2 retails, Mandhana Retail and Future Life - data for all the years could not be sourced.
- Future Enterprise - Its business operations are in the supply chain vertical of the retail sector.
- Intrasoft Tech - Its e-commerce channel is operating in the USA and Canada. It is an Indian company registered in India but does not serve Indian retail market.

The valuation multiples for all 12 companies are calculated for every year over 10 years period. This panel data has been regressed in STATA software and tested for 5% significance level.

Based on the predicted line obtained from each multiple, the valuation multiples are determined for Reliance Retail and the value range is determined for Reliance Retail IPO.

Data Analysis

- *Testing Hypothesis for the Multiple: Price to Sales (Combination 1)*

Table no. 3 shows the descriptive statistics for the independent variables – Net Income Margin, Growth in Sales and Selling Expense

Ratio, and the dependent variable – Price to Sales.

Table 3: Descriptive Statistics

Variable (s)	Mean	Standard Deviation	Range
Net Income Margin	0.1203036	1.35638	(-1.866814) to (12.74937)
Growth in Sales	0.7906611	6.596348	(-0.9950353) to (72.0459)
Selling Expense Ratio	0.7861836	4.416147	(0.0053587) to (33.00158)
Price to Sales	0.2837909	0.6889616	(1) to (3.905572)

Expected Regression Multiple is given below:

$$\text{Price to Sales} = \alpha + \beta_0(\text{Net Income Margin}) + \beta_1(\text{Growth in Sales}) + \beta_2(\text{Selling Expense Ratio})$$

Eqn.(ii)

Table no. 4 shows inferential statistics.

Table 4: Inferential Statistics

	Coefficient	Standard Error	Z-value	P > Z	Confidence Interval @ 95%
Net Income Margin	0.0067063	0.043625	0.15	0.878	(-0.0787971) to (0.0922098)
Growth in Sales	-0.006566	0.0059002	-1.11	0.266	(-0.0181302) to (0.004998)
Selling Expense Ratio	0.1131279	0.0139965	8.08	0.000	(0.0856953) to (0.140561)
Alpha	0.1941678	0.0823526	2.36	0.018	(0.0327596) to (0.355576)

$$*R - \text{Square} = 0.5118$$

Table no. 3 above shows the mean and standard deviation for the multiple Price to Sales and its respective independent variables. It is evident that the average growth in sales and selling expense ratio for companies in the retail sector is higher than their profit margins. Table no. 4 shows that only the selling expense ratio is significant at p-value of 0.05% while the other two independent variables are not significant.

This result could be due to the fact that revenues and profit margins are subject to high

fluctuations in the retail sector. The high competition in the retail sector has compelled companies to offer options of sales return which results in losses and lesser sales to the companies.

Price to Sales multiple carries an R-square of 51.18% which means that the combination of independent variables - Net Income Margin, Growth in Sales and Selling Expense Ratio - explains 51.18% of variation in the price to sales valuation multiple.

The remaining 49% of the variation in Price to Sales is unexplained by these independent variables and also most of the p-values are not significant at 5% level for the combination of above independent variables. Further correlation between net income margin and selling expense ratio is high. Therefore, we cannot reject the null hypothesis. It can be

inferred that the price to sales multiple is not significant at 95% confidence level.

- **Testing Hypothesis for the Multiple: Price to Sales (Combination 2)**

Table no. 5 shows the descriptive statistics for the independent variables – Net Income Margin, EV to Sales and Selling Expense Ratio, and the dependent variable – Price to Sales.

Table 5: Descriptive Statistics

Variable (s)	Mean	Standard Deviation	Range
Net Income Margin	0.1203036	1.35638	(-1.866814) to (12.74937)
EV to Sales	5.673086	17.61473	(0.1115618) to (99.34257)
Selling Expense Ratio	0.7861836	4.416147	(0.0053587) to (33.00158)
Price to Sales	0.2837909	0.6889616	(1) to (3.905572)

Expected Regression Multiple is as follows:

$$\text{Price to Sales} = \alpha + \beta_0(\text{Net Income Margin}) + \beta_1(\text{EV to Sales}) + \beta_2(\text{Selling Expense Ratio}) \dots \dots \text{Eqn(iii)}$$

Table no. 6 shows inferential statistics.

Table 6: Inferential Statistics

	Coefficient	Standard Error	Z-value	P > Z	Confidence Interval @ 95%
Net Income Margin	0.1709211	0.043625	6.60	0.000	(0.1201951) to (0.221647)
EV to Sales	0.0251211	0.0059002	16.00	0.000	(0.0220445) to (0.0281977)
Selling Expense Ratio	0.0319396	0.0139965	3.46	0.001	(0.0138489) to (0.0500302)
Alpha	0.0955814	0.0823526	1.40	0.162	(-0.0385276) to (0.2296903)

$$*R\text{-Square} = 0.8012$$

The results get improved by replacing Growth in Sales variable with EV to Sales variable. Table no. 5 portrays the mean and standard deviation for the multiple - Price to Sales and its respective independent variables. The EV is five times the sales value on an average for the

retail sector while the selling expense ratio is quite high. Table no. 6 shows that all the three independent variables are having p-value nearly zero and the R-square for Price to Sales multiple improves to 80% by replacing growth in sales variable with EV to Sales variable. This

means that 80% variation in Price to Sales Multiple is explained by these three-independent variables.

The analysis shows that the independent variables are highly correlated with each other. Net Income Margin ratio is highly positively correlated with Selling Expense Ratio and EV to Sales ratio. Thus, it can be said that despite near zero p-values, we cannot reject the null hypothesis as the correlation analysis shows the

problem of multi-collinearity among independent variables. Therefore, the Price to Sales multiple is not significant at 95% confidence interval.

- **Testing Hypothesis for the Multiple: Price to Book Value**

Table no. 7 shows the descriptive statistics for the independent variables – Return on Assets, Growth in Earnings and Return on Equity, and the dependent variable – Price to Book Value.

Table 7: Descriptive Statistics

Variable (s)	Mean	Standard Deviation	Range
Return on Assets	-0.2127069	2.3482	(-25.62626) to (0.7080996)
Growth in Earnings	4.193774	41.65213	(-57.46721) to (434.8)
Return on Equity	-6.769316	43.07409	(-340.2) to (5.941606)
Price to Book Value	2.13739	4.123824	(1) to (13.74189)

Expected Regression Multiple is as follows:

$$\text{Price to Book Value} = \alpha + \beta_0(\text{Return on Assets}) + \beta_1(\text{Growth in Earnings}) + \beta_2(\text{Return on Equity})$$

Eqn.(iv)

Table no. 8 shows inferential statistics.

Table 8: Inferential Statistics

	Coefficient	Standard Error	Z-value	P > Z	Confidence Interval @ 95%
Return on Assets	0.001613	0.0533271	0.03	0.976	(-0.1029061) to (0.1061322)
Growth in Earnings	-0.0003414	0.0029938	-0.11	0.909	(-0.006209) to (0.0055262)
Return on Equity	0.0002681	0.0032387	0.08	0.934	(-0.0060797) to (0.0066159)
Alpha	2.035106	1.214039	1.68	0.094	(-0.344366) to (4.414579)

*R - Square = 0.0084

Table no. 7 shows the mean and standard deviation for the multiple - Price to Book Value and its respective independent variables.

It is evident that the average Return on Equity and Return on Assets is negative for companies

in the retail sector, which means that the firms are unable to generate profits and require more investments to sustain in the market.

Table no. 8 exhibits that none of the independent variables are significant as each

independent variable has p-value higher than z-value. While the p-value for alpha is high, which suggests there are other performance variables that can better explain the variation in price to book value. Thus, the test could not be stated significant due to the fact that companies are currently registering losses or making very low profits at very high volume of sales.

Price to Sales multiple has an R-square of 0.84% which means that the combination of independent variables does not explain much of the variation in the price to book valuation multiple.

The analysis shows that these variables are not subject to multi-collinearity problem. Also, there exists very minimal correlation amongst independent variables which proves the independent nature of the independent variables. The set of operating performance indicators does not explain Price to Book Value.

- **Testing Hypothesis for the Multiple: EV to Sales**

Table no. 9 shows the descriptive statistics for the independent variables – Net Income Margin, Selling Expense Ratio and Growth in Sales, and the dependent variable – EV to Sales.

Table 9: Descriptive Statistics

Variable (s)	Mean	Standard Deviation	Range
Net Income Margin	0.1471143	1.36923	(-1.866814) to (12.74937)
Selling Expense Ratio	0.7926628	4.434247	(0.0053587) to (33.00158)
Growth in Sales	0.8948282	6.641965	(-0.9982917) to (72.0459)
EV to Sales	5.673086	17.61473	(0.1115618) to (99.34257)

Table no. 10 shows inferential statistics.

Table 10: Inferential Statistics

	Coefficient	Standard Error	Z-value	P > Z	Confidence Interval @ 95%
Net Income Margin	-5.613003	1.596437	-3.52	0.000	(-8.741961) to (-2.484045)
Selling Expense Ratio	2.961305	0.4929252	6.01	0.000	(.995189) to (3.92742)
Growth in Sales	-0.0584658	0.2139787	-0.27	0.785	(-0.4778564) to (0.3609248)
Alpha	4.20384	1.451877	2.90	0.004	(1.358213) to (7.049466)

*R - Square = 0.2526

Table no. 9 shows the mean and standard deviation for the multiple - EV to Sales and its respective independent variables. It is evident that the companies in the retail sector have high selling expenses but low profit margins. While

the growth in sales is random for each company. The test results in table no. 10 shows that independent variables – Net Income Margin and Selling Expense Ratio are having near zero p-values while Growth in Sales

variable has a very high p-value of 0.785. The p-value for alpha also comes out to be nearest to 0 which means that there are not many significant other performance variables to define EV to Sales multiple.

Although the R-square is 25% only, even if we drop the independent variable, Growth in Sales, the R-square remains at 25%. In addition, there is a problem of multi-collinearity between Selling Expense Ratio, Growth in Sales and Net Income Margin. Therefore, we cannot reject the null hypothesis because the p-values of all independent variables taken is not less than the

z-value 0.05 and also there is presence of high level of multi-collinearity. Thus, the EV to Sales multiple is not the significant valuation multiple to value companies in the retail e-commerce sector.

• **Testing Hypothesis for the Multiple: EV to EBITDA**

Table no. 11 below shows the descriptive statistics for the independent variables – Operating Income Margin, Inventory Turnover Ratio and Return on Capital Employed, and dependent variable – EV to EBITDA.

Table 11: Descriptive Statistics

Variable (s)	Mean	Standard Deviation	Range
Operating Income Margin	0.5561495	3.357282	(-1.853256) to (28.0958)
Inventory Turnover Ratio	6.619857	9.777207	(0.0103462) to (76.67325)
Return on Capital Employed	0.1772475	1.262165	(-4.011885) to (3.823756)
EV to EBITDA	-238.3573	2683.012	(-29381.13) to (187.2326)

EV to EBITDA = $\alpha + \beta_0(\text{Operating Income Margin}) + \beta_1(\text{Inventory Turnover}) + \beta_2(\text{Return on Capital Employed})$

Table no. 12 shows inferential statistics.

Table 12: Inferential Statistics

	Coefficient	Standard Error	Z-value	P > Z	Confidence Interval @ 95%
Operating Profit Margin	6.335092	76.11545	0.08	0.934	(-142.8484) to (155.5186)
Inventory Turnover Ratio	8.283952	26.05532	0.32	0.751	(-42.78353) to (59.35143)
Return on Capital Employed	51.75382	199.8985	0.26	0.796	(-340.0401) to (443.5477)
Alpha	-308.545	304.9812	-1.01	0.312	(-906.2973) to (289.2072)

*R - Square = 0.0016

Table no. 11 shows the mean and standard deviation for the multiple - EV to EBITDA and its respective independent variables. It is evident that the companies in Indian retail sector are having an average low return on capital employed and also low operating profit margins. Although the companies have good

inventory turnover ratios it varies vastly from company to company.

The results in table no. 12 show that the p-values for all the independent variables is high and R-square is minimal 0.16%. The correlation analysis shows that inventory ratio and operating income margin have a small multi-collinearity problem while the other

variables are even less correlated. On the whole, it can be said that none of the stated performance variables could explain the variation in EV to EBIDTA multiple. Thus, we cannot reject the null hypothesis.

stages of profit generation. If the companies want to book profit, they have to cover a high sizable market as the selling and advertising expenses are high, despite high sales volume. The traditional Indian retail market is estimated to account for 88% as of 2017 (TechSci Research, 2019). Out of the total Indian retail market (including e-commerce and traditional segment) e-commerce segment accounts only for an estimated 3% as of 2017 and is forecasted to increase to 7% by 2021, still making the traditional retail segment to hold the major share (around 75%) in the Indian retail market (TechSci Research, 2019).

There is continuous growth in e-commerce segment due to increase in mobile and internet usage majorly by the youth population. The companies are currently focused on acquisition of this population at very low profit margin with sole aim to increase sales at higher expense ratios. In addition, these companies are at the start-up stage of e-commerce business so it is difficult to identify the most significant valuation multiple for such firms.

Many of these firms have a ten-year financial history, but the e-commerce retail segment has a longer gestation period of profits. The analysis suggests that all four valuation multiples for the given combination of performance variables are not significant at 95% of confidence intervals. Therefore, the value for the Reliance Retail IPO cannot be ascertained from the given four valuation Multiples.

The valuation of Reliance Retail IPO is more dependent on the economic and industry factors than on the company specific factors. The profits will take longer to emerge and sales are not high enough in comparison to traditional retail segments. Therefore, the valuation of

Conclusion & Recommendations

The retail sector is in the booming phase due to high levels of sales but still it is in the early

these e-commerce start-up firms can be ascertained under further study by using qualitative factors like management performance, key performer or the entrepreneur, promoters, financial performance of holding firms etc. as the independent factors.

Thus, there is further scope of improvement in this research. A researcher may also attempt to identify the more significant valuation multiple from the above-mentioned multiples with a set of different combinations of operating performance indicators. The researcher may also attempt to use other valuation methods like venture capitalist method with the above stated qualitative factors as the results using quantitative ratios on valuation multiple are not significant.

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**The Impact of Leverage on Profitability:
An Empirical Analysis on Oil and Gas Industry in India**

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Abstract:

This research paper attempts to find out the impact of leverage on profitability of the Oil and Gas industry in India. The study is based on secondary data which has been collected through annual reports of the companies. The investigation has been conducted on a panel of 8 firms of Oil and Gas industry, which are listed in CMIE in India. The period of the study is from 2006-07 to 2015-16 i.e., 10 years. Operating Leverage (OL), Financial Leverage (FL), and Combined Leverage (CL) are taken as independent variables. Return on Net Worth (RONW), and Return on Capital Employed (ROCE) have been considered as dependent variables. Descriptive Statistics, Co-integration Test, Unit Root Test (ADF and PP) and Hausman Test have been used as statistical tools for analysis by using E-views. The results of the study show that there is a significant and negative relationship between leverage and profitability of firms. The findings of the study also reveal that the leverage is an important factor which carries an impact on profitability of the firm which in turn affects the wealth of the shareholders.

Key Words: *Financial Leverage (FL), Operating Leverage (OL), Combined Leverage (CL), Shareholders' Wealth, Profitability, Return on Capital Employed (ROCE), Return on Net Worth (RONW)*

Introduction

Maximization of wealth of shareholders has always remained the important objective of financial management. The firms and entities have been using a hybrid of financial strategies including leverage for shareholders' wealth maximization. Leverage refers to an increased means of accomplishing some purpose. Leverage is used for lifting heavy objects, which may not be otherwise possible.

According to Pandey (2009), leverage is used to utilize the fixed cost assets/funds to increase the returns to the owners of the firm. Every firm tries to increase the owner's wealth and often it is done by using fixed cost funds, which are generally available at lower cost. Leverage is the employment of an asset of finance for

which firm pays fixed cost/fixed return. Leverage may be either financial (FL), operating (OL) or combined (CL). Proper usage of financial leverage and operating leverage should lead to increase in shareholders' wealth.

Financial leverage takes the form of a loan or other borrowings, the proceeds of which are invested with the intent to earn a greater rate of return than the cost of interest. If the firm's rate of return on assets is higher than the rate of interest on the loan, then its return on equity will be higher than if it did not borrow.

Operating leverage reflects the extent to which fixed assets and associated fixed costs are utilized in the business. Degree of operating leverage may be defined as the percentage of leveraging.

If both operating and financial leverage allow us to magnify our returns, then we will get maximum leverage through their combined use in the form of combined leverage. Operating leverage affects primarily the assets and operating expense structure of the firm; while financial leverage affects the debt-equity mix. From an income statement viewpoint, operating leverage determines return from operations; while financial leverage determines how the 'fruits of labor' will be divided between debt and equity holders.

Corporate sector has some unique characteristics which distinguish itself from other types or forms of business organizations such as partnership, sole proprietorship and so on. When compared to other forms of organizations, the company has special features such as limited liability, more liquidity and increased earnings. There are a lot of sources available for mobilization of funds to a company, like, equity, debt, (institutional credit, individual credit) but the company need to analyze and determine which source is more suitable and viable for the long -term growth or wealth maximization of the company and to serve its best to its stakeholders.

Review of Literature

In order to find the impact of leverage on the profitability of a firm, a lot of research has been undertaken by various researchers all over the world. The review of some of the major studies has been undertaken so as to develop a clear understanding about the relationship between leverage and profitability. The review of such major studies is presented as follows:

Thomas et al. (2012) highlighted that the degree of control over operations affects the quality of information provided to investors. Uncertainty about operating performance increases following the first equity method (EM) reporting of off-balance-sheet investments, but only when the investments are joint ventures (JVs). A sample of 9 firms listed over the period 2005–2009 was empirically tested. Partners in

JVs reported lower levels of debt. These results are not due to informational deficiencies of the EM, but due to the riskier nature of JVs.

Jean and Siham (2013) examined the role of cross-listing in alleviating domestic market constraints and facilitating mergers and acquisitions. The results show that cross-listing allows shareholders of target firms to extract higher takeover premiums relative to their non-cross-listed peers. It was also found that cross-listed firms are more likely to be acquisition targets, consistent with the belief that cross-listing increases firms' attractiveness and visibility on the market for corporate control.

Khaled, Kose, Alaxandros and Vasudevan (2013) studied a sample of 670 firms that announced asset purchases. It was hypothesized that buyer announcement returns should be higher in the presence of better monitoring and better governance. It was found that buyers with higher private debt make purchase decisions that increase shareholders' value. Matemilola, Ariffin and Saini (2013) studied a sample of 94 firms listed on the Bursa Malaysia over the period 2000–2009. The study investigated the effect of leverage and managerial skills on shareholders' return. The regression analysis that accounts for managerial skill factors reveals that leverage has a positive relationship with shareholders' return. Similarly, managerial skills have a positive relationship with shareholders' return. Based on the findings, the study suggests that leverage and managerial skills may be priced in equity valuation.

Nicolai (2013) examined the impact of the advisor structure on the leverage of 265 real estate investment trusts (REITs) in the United States. The study employed panel data for the period 1994 to 2010. The study found no evidence for an agency problem related to the choice of leverage from more recent data. The lower leverage makes economic sense since externally-advised REITs bear higher costs of debt than their internally-advised counterparts. Liyana, Yakob and McGowan (2014) studied

the proxies which are used to measure the financial elements viz. return on equity, net cash flow, the debt-to-equity ratio and market capitalization. The annual data on above financial indicators are taken for the period of 11 years from 2004 to 2014. The empirical results indicate that only profitability has a significant impact on the dividend payout ratio for publicly listed companies in Thailand while all other key financial indicators have no influence in determining dividend payout policy in Malaysia.

Utkarsh, Anil and Sharma (2015) highlighted that the operating liquidity and financial leverage are two significant aspects of overall firm management. They employed a sample of 151 Indian machinery firms and used their annual financial standalone data from 2004-05 to 2012-13, collected from CMIE Prowess database. It was found that both leverage and liquidity are significant in determining the performance of the firm. The results show that low levels of debt and high liquidity are instrumental in improving the performance of capital-intensive machinery firms.

Azhagaiah and Silambarasan (2015) studied the determinants of corporate leverage in the IT industry in India. The study has chosen 28 sample firms from the IT industry in India, which are listed in the National Stock Exchange. The study used correlation and regression analysis to find the relationship and the impact of corporate leverage on profitability. The study found that there is a significant impact of operating leverage and financial leverage on return on net worth.

Tooba (2015) studied a sample of 35 companies listed on the KSE for the period starting from year 2007 to 2012. The study concluded that there is no significant relationship between DOL and EPS, DFL and EPS, DCL and EPS. Thus, fixed operating expenses and the financing mix decisions of the firm do not significantly affect the earning capacity of the listed companies in KSE. Fixed operating

expenses and the financing mix decisions of the firm are not found significantly impacting the earning capacity of the listed companies in KSE.

Giuliana (2016) found that the established evidence of negative profitability leverage relation contradicts Trade-Off theory. The study concluded that the profitability decreased leverage, assets and retained earnings, while debt remains stable. Pandey and Prabhavathi (2016) highlighted that leverage is an important tool of financial planning because it is related to profits. In their study they found that Mahindra and Mahindra Ltd has the highest gross fixed assets among the selected 12 automobile companies in India which means the Mahindra and Mahindra Ltd has the leverage to increase the return on the individual asset. The fixed cost relating to the debt portion in the capital structure has to be determined with utmost care by not putting down the shareholders' interest.

Pandey, Prabhvathi and Pandey (2016) investigated the secondary data collected from annual reports of a panel of 11 companies of steel industry listed in NSE and BSE in India. The period of the study has been considered for 10 years i.e., 2005-2006 to 2014-2015. The result of the study indicates that there is a significant and negative relationship between leverage and firm's profitability. The study concluded the established statistically tested relationship between leverage and profitability companies for Indian Steel Sector.

Shakila and Moniruzzaman (2017) carried out a study on the capital structure of Bangladeshi commercial banks and insurance companies. The study used the secondary data for the period 2011-2015 and analyzed data through descriptive analysis, and t-test. The study concluded that the Banking Sector Companies should reduce dependency on debt capital and increase equity capital; the Insurance Sector Companies should strive to increase their EPS; Banking Sector Companies should strive to

increase their Return on Assets (ROA); and both should strive to increase their Return on Equity (ROE). Pandey and Ponni (2017) found in their study that there was a significant impact of CL and OL on Profitability measures (ROA, ROE and EPS) in the pharmaceutical Industry in India during the year 2004-05 to 2013-14.

Objectives of the Study

- To study the relationship between financial leverage and profitability (ROCE, RNW) of Oil and Gas industry in India
- To find out the impact of leverage on profitability of Oil and Gas industry in India.

Hypotheses of the Study

For the purpose of study, a set of null and alternative hypotheses were formulated. The null hypotheses are presented as follows:

- H_{01} : There is non stationarity between financial leverage and profitability of Oil and Gas industry in India.
- H_{02} : There is no co-integration between financial leverage and profitability of small oil and Gas industry in India
- H_{03} : There is no causality between leverage and profitability of Oil and Gas industry in India.
- H_{04} : There is no relationship between operating leverage and combined leverage of manufacturing industry in India
- H_{05} : There is no similar trend of leverage and profitability of Oil and Gas industry in India

Research Methodology

The study is based on secondary financial data taken from financial statements, such as balance sheets, profit and loss accounts of listed companies for the period from 2006-07 to 2015-16. The data has also been collected from annual reports of the company, and database from CMIE. The data of following companies has been analyzed: Bharat Petroleum Corpn.

Ltd., Cairn India Ltd. [Merged], Essar Oil Ltd., G. A. I. L. (India) Ltd., Hindustan Petroleum Corpn. Ltd., Indian Oil Corpn. Ltd., Oil & Natural Gas Corpn. Ltd., Oil India Ltd., and Tata Petrodyne Ltd.

Data has been analyzed by using Descriptive Analysis, Unit Root Test (Augmented Dickey-Fuller Test, Phillips Perron Test), Co-integration Test, Hausman Test. E-VIEWS software has been used.

● *Augmented Dickey Fuller (ADF) Test*

Augmented Dickey-Fuller (ADF) is a modified version of Dickey Fuller (DF) test. ADF test is superior to DF test as it makes a parametric correction in the original DF test for higher-order correlation by assuming that the series follows an AR (p) process.

The approach of the ADF test takes care of higher-order correlation by adding lagged difference terms of the dependent variable of the regression. The specification of Augmented Dickey-Fuller test used in the study which is described below:

Phillips-Perron (PP) Test

For adjusting with higher-order serial correlation given time series Phillips and Perron (1988) adopted a nonparametric method. The test regression for the Phillips-Perron (PP) test is the AR (1) process.

As mentioned above the ADF test adds lagged differences terms of the dependent variable to the right-hand side of the regression the PP test makes a nonparametric correction to the t-static of the coefficient from the AR (1) regression to counter the serial correlation in u_t . Phillips Perron test is free from parametric errors which is its major advantage.

This test further allows the disturbances to the weakly dependent and heterogeneously distributed. That is why PP test is applied in the study for checking the stationarity of the time series data.

- *Co-integration Test*

Co-integration analysis helps in examining long-run equilibrium relationships by the use of non-stationary series.

If two variables are found to be co-integrated, they would not drift apart over a period of time on an average. The Johansen's Maximum Likelihood procedure is used for examining co-integration.

- *Hausman Test*

A central assumption in random effects estimation is the assumption that the random effects are uncorrelated with the explanatory variables. Random effects are efficient.

The random effects estimator is a weighted combination of the within and between estimators. Under the null hypothesis of no correlation, there should be no differences between the estimators.

Data Analysis

- *Descriptive Statistics*

Table no.1 presents descriptive statistics of select Oil and Gas Companies for the yearly data over the period 2006-2016. It shows that all the variables have positive mean values. For the 10 years period, the mean return on capital employed (ROCE) is 124.6730 points and the mean return on net worth (RONW) is 120.090 points. ROCE base is usually wider than RONW, ROCE can be said to be slightly better than RONW.

Regarding Skewness, data distribution for CL, FL, ROCE, and RONW can be said to be moderately skewed, and for operating leverage it is highly skewed. Regarding Kurtosis, operating leverage (OL) data can be said to be highly leptokurtic in nature.

The Jarque-Bera statistic for operating leverage (OL) is on the higher side, and for the rest of variables it suggests smooth and uniform distribution of the data over the estimation period.

Table 1: Descriptive Statistics of Oil and Gas Companies

Measures	CL	FL	OL	ROCE	RONW
Mean	41.43697	15.00265	7.580531	124.6730	120.0900
Median	19.25329	4.140539	4.359819	126.9500	122.2800
Maximum	163.1659	52.83872	39.76647	183.3500	193.8600
Minimum	-58.55102	0.561652	-1.108108	35.32000	-16.50000
Std. Dev.	69.44213	19.48763	11.54819	53.82291	64.70565
Skewness	0.716914	0.984787	2.460698	-0.490777	-0.894419
Kurtosis	2.583583	2.363231	7.497870	2.051409	3.034026
Jarque-Bera	0.928861	1.785291	18.52124	0.776364	1.333790
Probability	0.628493	0.409571	0.000095	0.678289	0.513300
Sum	414.3697	150.0265	75.80531	1246.730	1200.900
Sum Sq. Dev.	43399.88	3417.909	1200.247	26072.15	37681.39
Observations	9	9	9	9	9

**Source: Authors' calculations*

On the basis of comparison in terms of coefficient of variation (Std. Dev./Mean), RONW shows more variation than ROCE.

Similarly, operating leverage (OL) shows more variation than FL and CL. The summary statistics show that financial leverage, return on

capital employed, return on net worth moved rather steadily during the period.

- **Unit Root Test for Testing Non- Stationarity**

Table no. 2 exhibits results of Unit Root Augmented Dickey Fuller and Phillips Perron method.

Table 2: Unit Root Augmented Dickey Fuller and Phillips Perron Method

Variables	Augmented Dickey-Fuller Test			Phillips Perron Test		
	On Levels	On First difference	On 2 nd difference	On Levels	On First difference	On 2 nd difference
OL	0.0001***	0.0001***	0.0001	0.0001***	0.0001***	0.0001***
FL	0.0028**	0.0001***	0.0001***	0.0004***	0.0010***	0.0001***
CL	0.0380 **	0.1360	0.02350**	0.0394**	0.0004***	0.0001***
ROCE	0.1836	0.0169**	0.0038**	0.1836	0.0044**	0.0023**
RONW	0.3152	0.0049**	0.0001***	0.0136**	0.0004**	0.0001***

*** Significant at 1% level, ** significant at 5% level

The ADF and PP tests reveal that the variables were stationary in levels significant and first difference level in most of the Financial Leverage (FL) and Profitability (P). Hence, the null hypothesis H_{01} : "There is no stationarity between financial leverage and profitability of oil and Gas Industry in India" is rejected at 1%

and 5% level. Further, the result shows that among the ADF and PP tests are significant 1% and 5% levels of significance in the first difference in the oil and gas industry. Further, it shows that ADF and PP tests were significant at 1% and 5% in the second difference in oil and gas industry.

- **Co-integration Test**

Table no. 3 presents results of Unrestricted Johansen Co-integration Rank Test (Trace).

Table 3: Unrestricted Johansen Co-integration Rank Test (Trace) Results

Hypothesized No. of Coefficients	Eigen Value Statistics	Trace Statistics	0.05 Critical Value	Probability* *
None*	0.765501	392.4652	197.3709	0.0000***
At most 1	0.684263	311.2482	159.5297	0.0000***
At most 2	0.652997	246.6889	125.6154	0.0000***
At most 3	0.575382	187.4173	95.75366	0.0000***
At most 4	0.524391	139.4495	69.81889	0.0000***
At most 5	0.460817	97.83260	47.85613	0.0000***
***significant at 1%				
Trace test indicates 9 cointegrating eqn(s) at the 0.05 level				
* Denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Table no. 4 presents results of Unrestricted Johansen Co-integration Rank Test (Maximum Eigenvalue) are depicted.

Table 4: Unrestricted Johansen Co-integration Rank Test (Maximum Eigenvalue) Results

Hypothesized No. of Coefficients	Eigenvalue Statistics	Trace Statistics	0.05 Critical Value	Probability**
None*	0.765501	81.21698	58.43354	0.0001***
At most 1	0.684263	64.55935	52.36261	0.0019***
At most 2	0.652997	59.27163	46.23142	0.0013***
At most 3	0.575382	47.96772	40.07757	0.0053***
At most 4	0.524391	41.61694	33.87687	0.0049***
At most 5	0.460817	34.59117	27.58434	0.0053***

The co-integration test results presented in table no. 3 show that the number of co-integrate equations (0) is none, which means there is no co-integrated equation. The trace statistics and maximal Eigenvalue are greater than the 0.05 critical values. Hence, the null hypothesis, H_{02} : "There is no co-integration between financial leverage and profitability oil and gas industry in India" is rejected at 1% level in oil & gas industry in India."

- **Hausman Test**

Table no. 5 shows the results of the Hausman Test for Random Effect cross-section.

Table 5: Hausman Test for Random Effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. df.	Prob.
Cross-section random	123.470356	6	0.00** *

It is evident that the random effect is not applicable for the data at 1% level of significance based on the statistical evidence. Hence null hypothesis H_{03} : "There is no difference between leverage and profitability of oil and gas industry in India" is rejected at 1% level of significance.

This further implies that there is an existence of some company specific characteristics which do not change over time and significantly affect

Table nos. 3 & 4 show that trace statistics suggest one co-integrating vectors and the maximum engine value statistics also suggest one co-integrating vectors.

Co-integrating vector is significant at 1% level of significance. This indicates causality between leverage and profitability in a long-run equilibrium path.

the various independent factors like OL, FL, CL, ROCE, and RONW. Table no. 6 shows the result of regression analysis using a fixed effect model.

It is evident from table no.6 that the value of R^2 and Adjusted R^2 is 0.940 and 0.928. Thus, the regression model explains 92.8% of variation in the dependent variable.

Hence, null hypothesis H_{04} “There is no relationship between operating leverage and combined leverage of the oil and gas industry in India” rejected at 1% level in the manufacturing industry.

This further implies that there is an existence of some company specific characteristics which

do not change over time and significantly affect the various factors like OL, FL, CL, ROCE, and RONW. Hence, with all the modalities checked for the proper specification of panel model based on fixed effect model of panel data analysis is presented as follows.

Table 6: Regression Results of Dynamic Panel Data Using Fixed Effects

Dependent Variable: FL		
Independent Variables	Co-efficient (s)	Prob.
OL	47958.35	0.0003***
FL	2.691956	0.1103
CL	3.508459	0.0000***
ROCE	-149.1093	0.6470
RONW	0.039380	0.7199
R²		0.940108
Adjusted R²		0.928928
F-statistic		84.08932
Prob. (F - statistic)		0.0000***
Observations	9	

Figure nos. 1 to 5 (given in the appendix at the end) show graphs of various variables over the last ten years. These figures show the clear picture of movement of leverage and profitability factors (Financial leverage, Return on Capital Employed (ROCE), and Return on Net worth (RONW)).

The leverage is a different parallel trend in profitability. It shows that all selected variables are stationary. It means that their respective means and variances are not constant. For example, the graphs of variables Financial Leverage (FL), Return on Capital Employed (ROCE), Return on Net worth (RONW) show fluctuating increasing curves with the same direction.

The leverage versus profitability relationship observed from the company suggests that high leverage posed both an opportunity as well as a threat to profitability depending on the individual company’s operational efficiency in utilizing the borrowed capital. So the null

hypothesis “ H_{05} : There is no similar trend of leverage and profitability in the Oil and Gas industry” is accepted. Hence there is no similar trend of leverage and profitability.

Conclusion

The following conclusion has been drawn based on the analysis of data.

The ADF and PP tests reveal that the variables were stationary in levels significant and first difference level in most of the Financial Leverage (FL) and Profitability (P). Further, the results show that ADF and PP tests are significant at 1% and 5% levels of significance in the first difference in the oil and gas industry. Further, it shows that ADF and PP tests are significant at 1% and 5% in the second difference in the oil and gas industry.

The co-integration test results revealed that the number of co-integrate equations (0) is none, which means there is no co-integrated equation. The trace statistics and maximal Eigenvalue are

greater than the 0.05 critical values. Hence, it is concluded that financial leverage and profitability are co-integrated and it is significant.

1% level of significance. This indicates causality between leverage and profitability in a long-run equilibrium path.

The results of the Hausman Test for Random Effect cross-section shows that the random effect is not applicable for the data at 1% level of significance based on the statistical evidence. Hence, there is a difference between financial leverage and profitability. This further implies that there is an existence of some company specific characteristics which do not change over time and significantly affect the various independent factors like OL, FL, CL, ROCE, and RONW.

The result of regression analysis reveals that there is a significant relationship between operating leverage and combined leverage. This further implies that there is an existence of some company specific characteristics which do not change over time and significantly affect the various independent factors like OL, FL, CL, ROCE, and RONW. It is also concluded that there is no similar trend of leverage and profitability during the study period.

The overall results of the study based on the fixed effect estimation show that all the five explanatory variables in the model: financial leverage (FL), operating leverage (OL), combined leverage (CL), return on net worth (RONW), and return on capital employed (ROCE) have strong significant influence on firm's leverage. There is a positive effect of the leverage on the firm, confirms the predictions of capital structure.

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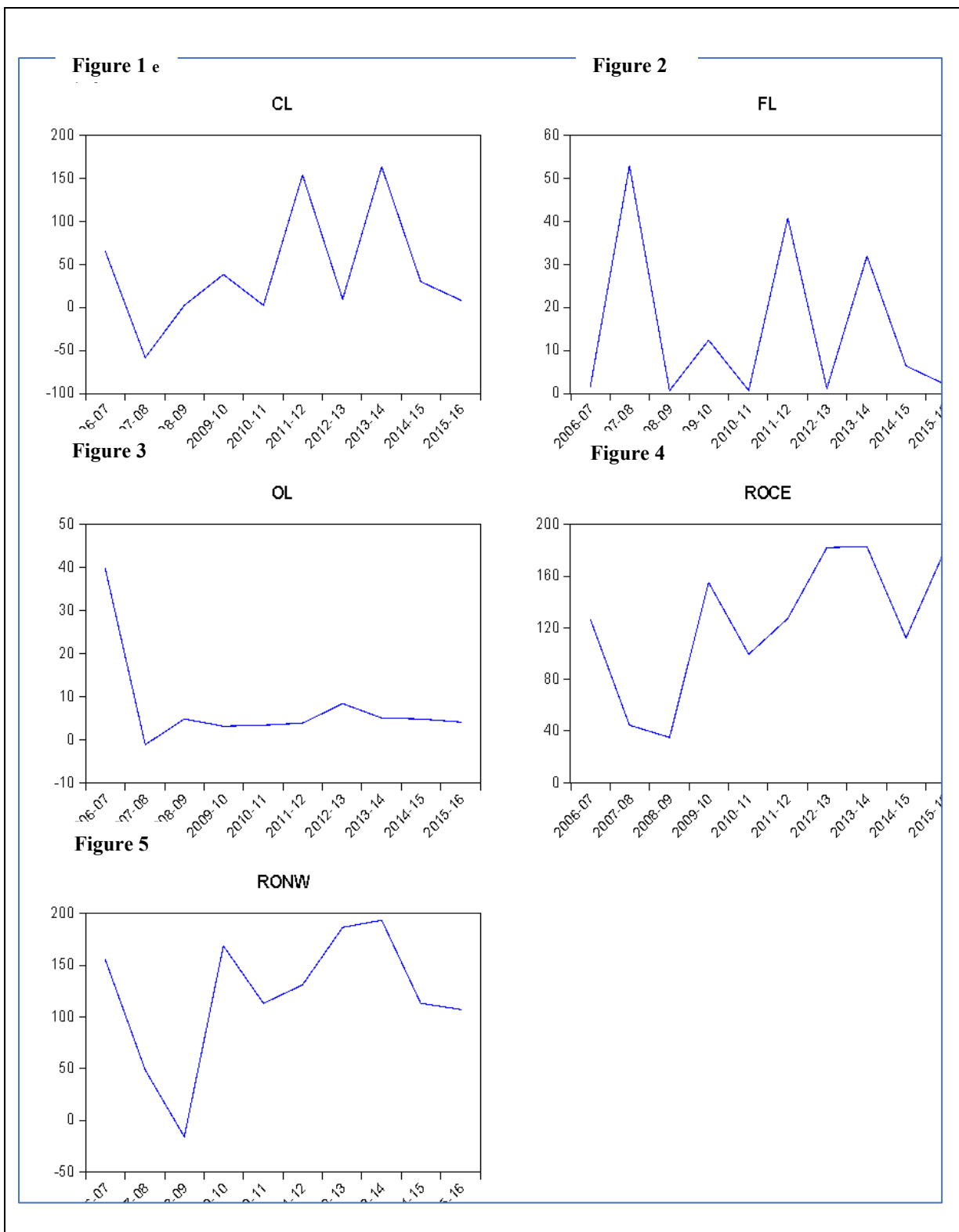
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Figures 1, 2, 3, 4 & 5: Trends for Variables in Oil and Gas Industry



Indian Entrepreneurial Landscape: The Role of StartUps

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Abstract:

Indian business landscape has seen unprecedented growth in the number of start-ups over the past few years. The rise of technology and the associated professional skills required to create a new venture in the present environment, have diluted the age-old perception in the minds of the people that entrepreneurs originated from a specific community only. Today, entrepreneurs from diverse backgrounds are setting up ambitious projects across industries with great confidence. Driven by a young and diverse entrepreneurial eco-system, remarkably innovative ventures are making a mark in the Indian business scenario with government programmes such as Start-up India and Make in India playing a significant role in this development.

With a more mature ecosystem and huge opportunities, Indians today are not only launching their own brands but also marketing them in international markets. However, the fact that most of the entrepreneurial ventures are focussing more on growth model in their early phase rather than operational efficiency, is resulting in their moving into stagnant mode after initial period of growth. This paper attempts to highlight the challenges faced by young entrepreneurs and suggests measures towards creating a more capital efficient method of producing entrepreneurs in the country for which a lot more mentors, incubators, investors and accelerators are required with their reach beyond metros.

Key Words: *Entrepreneurship, Venture, Innovation, Incubators, Accelerators, Eco-System, Value Creation*

Introduction

Indian entrepreneurship scene has witnessed a phenomenal change in recent times. For a long time in the country, there have been two communities with two distinct professions having their own benchmarks for success. Entrepreneurs originating from a dominant caste have been setting up businesses in India and sustained entrepreneurship by developing an eco-system that suited the needs of the traditional businesses. The core of this eco-system was the incubation facility within the business that enabled the next generation entrepreneurs to take forward the merchandise of their forefathers and diversify it to some extent. Business mentoring and hands-on-exposure from the experienced elders proved more useful than classroom based higher education to run a business successfully. On the other hand, the non-business communities

with technical education try to pursue rising careers in 'services' which they considered superior to doing business. However, with the fast pace of technological growth and the professional skills required to create a new venture in the present times, the rapid changes have diluted the age-old perception in the minds of the people that entrepreneurs originated from a specific community only.

Today if one has an innovative idea, access to technology, market knowledge and reach to venture capital along with high-risk appetite, then he can pursue his career in business. These technologies based new age businesses are called ventures which no longer are seen as 'dhanda' in the minds of non-business communities. The emergence of the customer centred innovation driven business models is generating in the country entrepreneurs from all communities be it, first generation

entrepreneurs from non-business communities or next generation entrepreneurs from traditional family businesses.

Entrepreneurship is vital not only for job creation and economic growth but it also reflects a society's capacity for boldness, risk-taking and creativity. According to the Global Entrepreneurship Development Institute (GEDI), there is a strong positive association between entrepreneurship, economic growth and innovation. Today India is the third largest base for start-ups in the world. Driven by a young and diverse entrepreneurial eco-system, remarkably innovative ventures are making a mark in the Indian business scenario. India's momentum is building tremendously, and it is technology that is making it happen, opening up even bigger opportunities for growth, inclusion, and further investment. India has more than 65% of its population with young innovative minds and also a working age population which is expected to rise from 40% to 55-60% by 2020. Providing jobs to people is a big challenge for the government when literacy rate is also increasing. Hence, it is crucial to promote entrepreneurship among the youth who will not only become self-employed but by creating jobs for others, can make a significant contribution to the overall socio-economic development of the country.

There has been a rising demand for next generation services with simplified solutions. While India has been witnessing this increasing trajectory of entrepreneurs and new start-ups over the last decade, many organisations including government, and institutional entrepreneur cells are providing support in sustaining the entrepreneurial zeal in the country. Recent government initiatives such as 'Make in India', 'Start-up India', 'Stand-up India', 'Kaushal' etc. aim to foster entrepreneurship and promote innovation by providing an ecosystem that is conducive for growth of Start-ups. Presently, investors are also ready to support the plans and ideas of young entrepreneurs. The start-ups with their hockey stick model growth have encouraged the established business houses such as Tata to invest in start-ups. Undoubtedly a new

entrepreneurial eco-system has developed over the past decade but there is still a long way to go. Many of these new ventures have failed or could not sustain due to lack of risk funds, managerial inefficiency to scale up the Start-Up to business plan projections and inability to achieve growth required to capture value over valuation.

These ventures are predominantly established and run by young people who are good at technology but not so adept at doing business. With many ventures focusing on first mover advantages, they built up huge cost barriers in the market by selling their services or products at huge discounts. The start-ups today are largely focusing on brand creation and market share than value creation and differentiation. This has led to higher competition and decreasing margins, with no guarantees of future returns. While start-ups might be successful in setting up a company, any technological change might render them useless. Many entrepreneurial ventures are focussing more on growth models in its early phase rather than operational efficiency. As a result, the venture moves into stagnant mode after the initial period of growth. Hence there is a need to have fine balance between operational efficiency and scalable growth to achieve capital efficiency. Thus, institutions and governments need to work on creating practices and environment for more sustainable growth of start-ups. Lots more mentors, incubators, investors and accelerators are required with their reach beyond metros to evolve a more capital efficient method of creating entrepreneurs.

Literature Review

It has become increasingly clear in recent years that the conceptualization of leadership must be broadened beyond that of top-down heroic leadership. According to Ensley, Hmieleski and Pearce (2006), the descriptive value of shared leadership goes over the vertical leadership. This suggests that the high-profile cases of the reckless start-ups, whose separate creativity and innovation has led to the renown and destiny, are more folk tales than actuality. It is

important for the expansion and extension of new start-ups. Goyal and Parkash (2011), in their research paper showed that the position of entrepreneur in society is better today than earlier, and the government is making serious efforts in enhancing entrepreneurship in the country through various schemes and policies. The study suggested that Start-ups must be configured properly with the business expertise to encounter the latest trends and changes in the environment and become capable enough for aspiring the supremacy in the entrepreneurial coliseum.

Rao (2017) in his article, described the evolution of entrepreneurship in India. The author articulated upon how entrepreneurship these days is leadership-driven or vision-driven as compared to community-driven entrepreneurship in the past. Technology and the professional network or eco-system with substantial support from the West based NRIs have been influential in triggering awareness, interest, desire and action towards entrepreneurship among youngsters from non-business communities. Sharifi and Hossein (2015) examined the financing challenges faced by start-ups in India. They emphasized that although a large population implies a large potential market in India it also leads to heavy employment pressure on the society. Many businesses start with a dream, but it takes more than just a dream for them to grow into successful businesses. Start-ups take time, effort, and energy. Funding is a major concern for start-ups and small businesses. Major leaps in technology have led investors to raise the bar in terms of how much legwork entrepreneurs are expected to do before even pitching their companies.

Badra and Sharma (2016) explored the Start-up India opportunities for entrepreneurs in India. They suggested that the success of Start-up India campaign hinges on government initiatives like faster and easier registration of Companies, self-certification for many legal requirements, zero inspection for three years, funding for patents, and speed of patent protection. It is pointed out that ease of starting and ending is critical in the context of the high

rate of start-up mortality. Caliendo, Kunn, Wiebner and Hogenager (2015) differentiated between subsidized start-ups out of unemployment and non-subsidized start-ups out of non-employment. The study reveals that the initiator of the subsidized start-ups has no lack of conventional education although they have less employment and less exposure to the industry and finally. The study concluded that the wealth stock restriction among the unemployed in respect to availability of personal equity and out-break of loans is the major constraint.

Sharma (2013), made a study on women entrepreneurs in India. She concluded that women entrepreneurs face many problems like social barriers, legal aspects, lack of education, lack of family support etc. She also explained various factors like pull and push factors affecting entrepreneurship. According to her, women have the firmness in setting up the enterprise and fighting against all odds. Andaleeb and Singh (2016) in their research paper studied financing sources for start-up companies in India. They explained that the growth of start-ups in India so far can be divided into four distinct phases: software services and global delivery model, the dotcom era, the rise of product start-ups and growth of start-up ecosystems. Some of the milestones include US-based Texas Instruments' decision to start an R&D centre in Bangalore in 1985 which further served to be an incubator for many of the current entrepreneurs and the launch of the infamous accounting software tally in 1986.

In its report prepared by Grant Thornton for ASSOCHAM India (2016) highlighted that the rapid growth of Start-ups over the last few years has resulted in the emergence of a number of home - grown unicorns across the country. One of the major contributors leading to this development has been the mega funding that has been ploughed into most of these unicorns between the period 2007 and 2015. Even the aspiring unicorns have had a decent run during this period, where managing to find investors is usually considered a tough task. The trends of investments suggest that investors want to enter

as an early investor, even before the start of the firm. According to the study, overall, India comes across as a thriving under-penetrated consumer driven market with a scope for exponential growth.

In their report, Nishith Desai Associates (2016), have explained in detail various issues that a start-up unit has to deal with in order to grow into a successful organization. Apart from planning the most effective business strategy for the company, the start-up entity needs to look at the regulatory environment, legal issues, and the laws of the country where the start-up is proposed to be set up. It also needs to examine the regulatory and tax regimes of locations it plans to do business in. Structuring the correct set-up for a start-up helps to prevent future complications, and mitigate regulatory and tax risks at a future stage when the start-up is nearing maturity. Dutta (2016) discussed the role of start-ups in the economy and the various policies, plans, schemes and strategies introduced by the government of India to encourage them. The study concludes that for any new idea to become a successful venture it requires appropriate support and mentoring.

Wagh (2016) investigated the factors responsible for making entrepreneurship a less desirable career choice. According to her, government policies and programmes, education and training act as major constraining factors for growth of entrepreneurship. The study recommends steps like liberalisation of government policies, capacity building through training and education, restructuring through incentives and tax structure to promote entrepreneurship and increased investment in research and development through growth in innovation. ‘Start up India’ and ‘Stand up India’ initiatives announced by the government are expected to build a strong eco-system for nurturing innovation and start-ups in the country that will help the sustainable economic growth and generate large scale employment opportunities.

Objectives of the Study

The key objectives are as follows:

- To study the changing scenario of entrepreneurship in India especially over the last decade
- To examine the vital role that Start-ups can play in the economic growth of the country by way of job creation, investment and innovation.
- To understand the major constraints and challenges faced by the young entrepreneurs today
- To make suggestions for the enhancement of the pro-entrepreneurial ecosystem in the country.

Research Methodology

The study is based on secondary data collected from various sources like research papers, websites, government reports and gazettes, business magazines, newspapers and personal interviews of few young entrepreneurs. The study is qualitative in nature.

Start-ups: Meaning & Characteristics

A Start-up is usually a company such as a small business, a partnership or an organization with a scalable business model and ability to grow rapidly with limited investment According to Investopedia, “A start up is a company that is in the first stage of its operations. These companies are often initially bankrolled by their entrepreneurial founders as they attempt to capitalize on developing a product or service for which they believe there is a demand. Due to limited revenue or high costs, most of these small-scale operations are not sustainable in the long term without additional funding from venture capitalists.”

According to the Ministry of Commerce and Industry, Government of India, a start-up is:

- i. A registered/incorporated entity not more than 10 years old,
- ii. having a turnover of less than Rs. 100 crores for any of the financial years since incorporation/registration, and

- iii. is working towards innovation and development of products or services that have high potential of wealth creation or employment generation.

Some major characteristics of start-ups are:

- Disruptive in Nature - One common aspect of start-up companies is that they are disruptive in nature. Their aim is to disrupt, change or enhance, the traditional mind-set of whatever industry they are in. They are very innovative in their approach of serving the customers/market. In fact, start-ups go for testing different possible business models in way of their search for a product/market fit.
- Small Scale - Start-ups have typically small size wherein not more than 30/ 50 persons are working. The size of their operations is also very limited which might grow as per the requirement and other factors.
- Organizational Structure- Start-ups have a very flat and non-hierarchy-based structure, where founder(s) work very closely with the team-mates and treat them as part of the innovation rather than employees.
- High Growth – Start-ups have the tendency to grow fast in terms of revenue and market share as the product and services being offered are very innovative and new for the customers/ market. High growth potential is also related to quick implementation, meaning that the product or service can be launched quickly bringing massive traction at once.
- Unconventional Sources of Funding- Start-ups, are mostly funded by unconventional sources of finance i.e., individuals, venture capitalists, angel investors and entrepreneurial funding agencies.
- High Risk of Failure - Since the market offerings by the start-ups are very unconventional and new and there are uncertainties of different kinds attached to the venture like technological, political, and competitive and customer related, there is a high risk of failure.

Indian Start-ups: Importance and Contribution

Start-up entrepreneurship is crucial because it creates new jobs, brings innovations and competitive dynamics into the business environment. Start-up companies work in an environment of changing technology and try to maximize profits by innovation. This induces backward and forward linkages which stimulates the process of economic development in the country. They act as catalytic agents for change, which results in chain reaction. Once an enterprise is established, the process of industrialization is set in motion. This generates demand for various types of units which in turn leads to overall development of an area due to increase in demand and setting up of more and more units.

The experience so far has shown that with just a push from the government and other competent authorities, start-ups can change the overall consumption pattern of India. A disruptive difference made by the start-ups can be seen in the Indian textile sector. In India, there are more than 2000 traditional skill-based clusters covering various skills from textile designing, handicrafts, and glass, leather and brass goods to wooden industries. However, most of those working in the sector are suffering from serial exploitation, poor living conditions, extremely low wages and inaccessibility to the direct market. Companies that work in this sector provide them the raw material and treat these craftsmen as daily wagers rather than as artists whose work should be valued. Thus, the economic contribution of start-ups is huge in terms of innovation, opening of newer markets and production/ consumption of unique/ innovative products for the consumer and creating a generation of job providers rather than job seekers.

India needs to address the critical needs of the country in areas like affordable healthcare, education, financial inclusion, etc. To gain maximum from the huge untapped potential of markets, many foreign countries are taking different initiatives to link up their businesses

with the Indian start-ups in almost all sectors including defence. Such joint ventures can attract the huge foreign fund inflows which can boost the country's growth. Due to the consumer demographics, with China being out of bounds, India offers the largest pie of investment opportunity that the world is eyeing today. However, it is the matter of concern that although there has been unprecedented growth in the number of start-ups during recent years most of them find it hard to survive after initial success. Aggression to capture market rather than profits, lack of commitments, high expectations for short life breakevens are some of the reasons besides some major constraints faced by start-ups in India.

Major Constraints Faced by Start-ups in India

According to the report of FICCI, "90 percent of start-ups either fail within the first two years of existence or realize the lack of a profitable business model." The reason is very easy, yet very hard to comprehend as start-ups have a very fragile ecosystem. Any change whether sudden or time bound has the bearing on the successful existence of start-ups in countries like India particularly as here conditions are very unpredictable and priorities are predefined.

Some of the major constraints faced by Start-Ups in India are -

- High Risk of Failure –The reasons for the high rate of failures among start-ups can be broadly divided into two categories i.e., Adoption failures which include business model and revenue model failures, and Execution failures which relate to product development and resourcing failures.
- Financial Constraints - Access to capital has always been a continuing problem for start-ups. While of late, angel investors, venture capital and private equity have brought succour to some extent, a large number of start-ups still grapple to raise funds from institutional setup. Funding challenge is not merely limited to seed rounds, but also for scaling up and expansion of the businesses.
- Lack of Entrepreneurial Ecosystem - There is severe shortage of start-up support networks and entrepreneurship ecosystems. Unlike in western countries in India there is a lack of special institutions to serve as incubators, start-up accelerators, start-up competitions for entrepreneurs to put their ideas to test and obtain necessary guidance. As a result of this many start-ups fail at the 'idea' stage of their business. The ecosystem usually does not directly provide funding to start-ups, they just serve as platforms that link investors and entrepreneurs so that entrepreneurs can obtain necessary funding to test out their ideas. The lack of these facilities makes it more difficult for entrepreneurs to find investors.
- Socio-cultural Obstacles - Indian culture inherently does not promote entrepreneurship. It still encourages stability, employment at large state-owned or private organizations and overall teaches people to be risk averse. Even if young Indian individuals have intention to start their own business, their family usually places a considerable amount of negative pressure on them to look for a 'stable job' instead of entrepreneurship.
- Lack of Skilled Manpower - For a start-up, it is particularly difficult to attract and hire talent and skilled workers. Small start-ups encounter many severe challenges in recruiting as they are unable to pay high salaries to their employees or offer any career development opportunities and hence often have to settle for the next best option.
- Marketing Challenges - Start-ups sell a unique product so striking a chord with the target audience and winning their trust is a big challenge they face. Absence of an effective branding strategy many times prevents start-ups from flourishing at a faster pace.

Government Initiatives for Pro- Entrepreneurial Eco-System

Indian government is playing a key role in channelizing the energy, aspirations and vision of the youth. Government is collaborating with various ecosystem stakeholders across different parts of the country to ensure that adequate resources are available for entrepreneurs to start a business and utilize its full potential. The government policy towards creating a pro-

entrepreneurship environment has the following objectives:

- To reduce regulatory barriers,
- To facilitate opportunities for learning and development,
- To develop large scale innovation driven infrastructure facilities, and
- To promote active collaboration among entrepreneurs, industry and academia.

Figure no. 1 presents the key foundations of ‘Pro Start-Up Eco-System’.

Figure. 1: Foundations of Pro Start-Up Eco-System



Start-up policy is a mixture of incentives and subsidies which are designed to encourage and promote start-ups in India and make India a start-up hub in the world. To boost the ease of doing business the government has launched an e-biz portal in 2015 which integrates the regulatory permission at one source. The use of this portal helps entrepreneurs for faster clearance for setting up of business. Credit guarantee for start-up lending and incentives in the form of tax holiday for three years are the steps taken to encourage the young entrepreneurs.

The Government has launched 'The Start-up India, 'Stand up India Mission' on 16th January 2016 to foster entrepreneurship and innovation by providing an ecosystem that is conducive for growth of Start-ups. Mudra Banks have been set up for providing guarantee free finance to the individuals who wish to start their business.

Atal Innovation Fund (AIM) has also been set up as an innovator's promotion platform involving academics, entrepreneurs, and researchers. According to official data more

than 5 lakh schools and over 10 lakh students have been involved via various activities in the Start-Up initiative to develop & inculcate a behaviour of independent thinking which helps them to come up with original ideas. These aspiring students can be further nurtured, mentored and shaped into prospective entrepreneurs.

Performance and Prospects

According to the NASSCOM-Zinnov start-up report titled 'Indian Startup Ecosystem Maturing – 2016,' India stands at number three position worldwide in terms of largest start up base. The number of start-ups operating in India had increased from about 3,000 in 2014 to 4750 in 2016; almost a 60% increase showing that the trend is upwards despite the mixed economic scenario.

According to the report the continuous efforts taken by the government over the last decade to build a favourable ecosystem for entrepreneurship in India will lead to the growth of start-ups by 2.2 times to reach close

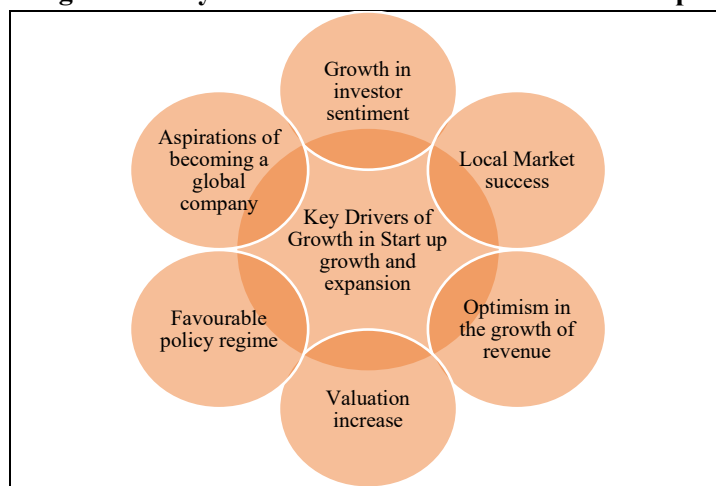
to 10,500 startups by 2020 and Indian tech start-ups will generate almost 2.5 lakh jobs in the next five years. India also enjoys demographic dividend, and it is anticipated that by 2020 India will be a home to 112 million working population falling in the age bracket of 20-24 years as compared to that of 94 million workers of China. This demographic dividend will further boost the start-up culture in the country.

Start-ups have access to multiple sources of funding from venture capitalists to private equities, angel investors, banks and financial institutions as well as incubators. Unlike a few years back when financing was largely debt oriented, the participation of venture capitalists as a source of funding has grown significantly today. In the current scenario, segments such as travel, matrimonial services, games, mobile payments, jobs etc. are getting huge capital infusion. One of the reasons for this trend has been the favourable policy regime with relaxed norms and conditions that are encouraging the investors to park their money in India.

With 13 states and union territories having established specific start-up policies, the entrepreneurial ecosystem is witnessing around 40% year-on-year growth in the number of incubators and accelerators. Government and international organisations alike are investing in innovative ideas, new incubators and accelerators are improving the enabling ecosystem, and start-ups are making good use of the resources increasingly available to them.

Success stories inspire the youth to act and work to realise their own ideas. With a more mature ecosystem and huge opportunities, Indians today are not only launching their own brands but also marketing them in international markets. By getting patent rights of many products Indian entrepreneurship is set to conquer not just the domestic but international market as well. Figure no. 2 presents key drivers of growth of start-ups in India.

Figure. 2: Key Drivers of Growth of Indian Start-Ups



While IT related ventures continue to rule, start-ups in sectors like cleantech, renewable energy retail, health care and education have seen increased funding.

The emergence and growth of green entrepreneurship i.e., entrepreneurial ideas that seek to solve environmental problems speaks well for the future prospects of start-ups in India. With a sizable portion of the Indian populace still lacking access to electricity, there is huge potential for renewable energy ventures. While some green start-ups such as Fourth Partner Energy seek to address this demand for energy, others still aspire to benefit the environment in other ways. D&D Ecotech – an initiative that supports the adoption of rainwater harvesting; and Waste Ventures – a Delhi-based start-up which produces organic compost from waste from dumpsites – are changing the rules of the game in their own innovative ways.

What is more encouraging is that this growth is relatively gender neutral. Women entrepreneurship has seen considerable growth. Unlike in established businesses, female entrepreneurs are a significant part of the start-up ecosystem. Ms. Swati Bhargava of CashKaro is one such entrepreneur, who founded the company with her husband Rohan Bhargava after selling their first start-up, Pouring Pounds – a cash-back business in the UK – for 1 billion USD. As the Indian ecommerce market began to mature, Ms. Swati set up a similar business in India by the name of CashKaro, which is now the largest platform of its kind in India. The example of CashKaro however, is not true representative of the role women play in the Indian start-up ecosystem. In spite of a rise in number of women entrepreneurs the base is still very small. The share of women entrepreneurs in the tech industry, for example, was reported to be merely 10% at the end of 2016, up from 6% in 2014 which shows there is still a long way to go in this direction.

In the Global Entrepreneurship Index (GEDI, 2018) where 137 countries have been ranked on 14 criteria like Opportunity perception, start-up

skills, risk acceptance, networks, cultural support, etc. India stands at 68th rank. In the Asia Pacific region, India is positioned 14th out of 28 countries. India's strength areas where its performance is above its overall score, are in - product and process innovation, internationalisation, opportunity start-up, risk acceptance, opportunity perception and robust competition in the marketplace. India's strongest performance falls under the criterion of product innovation where its score is equal to the best in the world. This measures a country's ability and potential to generate new products and to adopt or imitate existing products.

In broader terms, India's strength lies in its ability to identify the opportunities and risk-taking, which in turn links to its capabilities in product innovation and a healthy attitude towards internationalisation and seeking new markets beyond the home base.

By contrast, India's weaker areas, where it scores below the overall score, are in start-up skills, networks and cultural support, technology absorption, high growth and risk capital availability. The weakest area for India lies in technology absorption which is the ability of a country to access, utilise and integrate the knowledge from outside. This still suggests a somewhat insular approach to innovation and also points towards the concerns about investing in technology, technological partnerships, the need to stay abreast about current trends, greater labour market flexibility and a more supportive education and training system.

Interestingly, India also faces some acute challenges in terms of networking and cultural support. India does not perform at par with a number of other countries in terms of how well entrepreneurs know and connect with each other to share ideas, technical know-how, market connections and to undertake joint activities. Cultural support is still a key weakness in the Indian set up. This measures how a society views entrepreneurship in terms

of its status, as a career choice and how this view is affected by corruption. The influence of corruption on societal views about entrepreneurship points towards the fact that corruption continues to be widespread in India despite numerous reforms and progress in this area.

Also, the perception of Indians about entrepreneurship as a career choice shows that there is still a traditional underlying preference in India for the stable and secure salaried employment as compared to entrepreneurship. Lastly, surprising is the fact that India does not perform well on the availability of risk capital, despite the various measures that have been put in place under the '*Start-up India*' initiatives. Thus, a critical challenge remains for the entrepreneurial sector in ensuring that the appropriate amount and type of capital is available in an entrepreneurial life cycle, whenever needed.

Conclusion

Although the start-up ecosystem gaining momentum in India is a bright sign for the entrepreneurial growth in the country yet the road ahead is not free of challenges.

The start-ups today are largely focusing on brand creation and market share than value creation and differentiation which has led to higher competition and decreasing margins with no guarantees of future returns. The fast pace of technological change with its disruptive nature makes it difficult for many start-ups to survive.

India today needs disruptive innovations that are unique, scalable and sustainable to challenge social status and uplift the lives of poor and contribute to the overall economic development of the country.

Hence, there is a need to strengthen a more supportive institutional framework with such practices and standards that ensures the long-term success of start-ups.

In order to increase its global ranking significantly, India needs to pay more attention to the skills required for entrepreneurship including staff training, labour market flexibility in terms of being able to hire the right people with the right skills at the right time, and the entrepreneurs' level of education.

There is also a need for improving the capacity of the education system in providing high-quality support including a greater focus on entrepreneurship. The business potential in India is huge and is increasing with time. There is still a huge untapped market in India which is residing in rural areas.

For wider job creation and balanced regional growth, it is vital to encourage more start-ups in tier II & tier III cities rather than having them concentrated in metro cities. Government should frame policies encouraging entrepreneurs to take up ventures as per local needs.

Also, there is a need to make changes in academia to foster closer relationships between academics and industry and strengthen the learning of students which may serve as experience later when they become entrepreneurs.

Challenges are a part of life; strong determination can sail life through tough times. Innovators across the board exhibit the two major qualities of diligence and determination with the key difference between them being that diligence is a practice whereas determination is a state of mind.

Hence, there is need to put more emphasis than ever before on the skills and practices that make an entrepreneur not only in the education system itself, but in the clubs and societies built around it which will complement the more mature entrepreneurial world, and the discussions they encourage can be vital to produce the entrepreneurs of tomorrow.

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Influence of Gender on Entrepreneurial Intentions among Engineering Students: A Comparative Study

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Abstract:

Developing people's interest towards initiating a business plays a crucial role in the economic progress of developing countries. The economic growth and development of a country requires improved education and training particularly in technical fields along with an environment that supports entrepreneurship. Entrepreneurial intention is the most crucial factor that helps in formation, expansion and development of entrepreneurship. Today's students are tomorrow's potential entrepreneurs; by bringing innovations they contribute directly or indirectly to productivity.

This study has been conducted to determine whether the students in the area of engineering have the intention to become entrepreneurs upon graduation. Despite the converging roles of males and females in today's scenario, intentions to initiate an enterprise may vary among men and women. The present study also compares entrepreneurial intentions between male and female students of public and private engineering institutes in India. For the purpose of the study, primary data was collected from 600 undergraduate engineering students in Madhya Pradesh. Data was analyzed with the help of SPSS. Kolmogorov-Smirnov test was applied to test normality of the data; and One-way Anova test was applied to study gender differences in entrepreneurial intentions. The results indicated that there is no difference in level of entrepreneurial intention between male and female students.

Key Words: *Entrepreneurial Intention, Entrepreneurship, Gender Differences, Engineering Institutes.*

Introduction

Career choice is the most important decision that has to be taken by a student. In India the two choices available to students are either to work as salaried employee in public or private sector organization or to undertake entrepreneurship as a career option in the form of a start-up or taking over parental business. Career decisions have become more challenging due to lack of employment opportunities.

According to report published by the International Labour Organization (2018), as many as 18.3 million Indians were unemployed in 2017, and unemployment is projected to increase to 18.9 million by 2019. This report clearly states that the unemployment rate is consistently increasing and qualified professionals are unable to seek employment opportunities as per the qualification they pursued.

According to Schumpeter (1934) entrepreneurship is the driving force behind the economy since a large supply of potential entrepreneurs is essential to a well-functioning economy. Hence, students, organizations and government institutions are finding entrepreneurial opportunities more lucrative which may also result in social and economic welfare. Importance of entrepreneurship stems from its contribution to the national economy by growing economic efficiencies, bringing innovations, generating new job opportunities and sustaining employment levels (Hindle and Rushworth, 2000; Shane and Venkataraman, 2000; Carree and Thurik, 2003; Wu and Wu, 2008).

With the advent of Digital India, changes can also be observed in conventional business and economic models. Extrapolations need to be done by the Indian entrepreneurs in order to

visualize the future of entrepreneurship. Entrepreneurial success not only depends on innovation in basic business models but also innovative localization and adaptation to government regulations and idiosyncrasies are required. Changing environment, lack of job opportunities and digitalization have influenced students and now they are more inclined to take up entrepreneurship as their career choice. Entrepreneurship has always been considered as a means to encourage innovation and technological up-gradation, stimulate competition, generate employment, thereby leading to economic growth and national prosperity (Holmgren and From, 2005).

Taking entrepreneurship as a career alternative not only reduces stress among students but also helps in reducing unemployment rate and thus improves economic and social conditions of a country. Entrepreneurship is by intention and entrepreneurs come out through inventions. By definition, engineers are or should be innovators. Their profession has always been one focused on the development and application of new technologies. Nowadays, engineering graduates need an extensive range of skills and knowledge beyond that of the technical. The role of the engineer has transformed from isolated specialist to team player; from internally focused to globally aware; and from reactionary to entrepreneur (Refaat, 2009).

The practice of engineering is also getting significantly influenced due to the changed environment led by digitalization. New interdisciplinary fields have come into existence and traditional engineering is influenced by information technology and engineers are now being equipped with entrepreneurial skills. Engineers are now considered as innovators, who are involved in development and application of new technologies.

In this era of digitalization and technological innovations budding engineers have a great scope for entrepreneurship and young engineering graduates are intending to start their own business. Although engineers are often linked to innovation, they are likely to

create lesser businesses than business school graduates (Fayolle, 2001).

Many studies have been undertaken to explore entrepreneurial intentions of business management students who already had exposure in the basic knowledge of entrepreneurship (Kolvereid and Moen, 1997); however very few studies have been done on to explore entrepreneurial intentions of engineering students. Hence, it is important to explore entrepreneurial intentions among engineering students as engineering students have minimum exposure in the basic knowledge of entrepreneurship. Thus, this study focuses on entrepreneurial intention among engineering students in India.

Entrepreneurial intention refers to self-recognized conviction by a person that he/ she aspires to set up a new business venture and wilfully plans to do so at some point in the future (Thompson, 2009). Guerrero (2008) describes entrepreneurial intention as a state of mind that people wish to create a new firm or a new value driver.

Not only engineering education but also type of educational institute can affect the entrepreneurial intentions among students. A movement was also initiated to make universities more responsible and committed towards the economic and social future of the regions in which they are located (Iizuka and Moraes, 2014). Therefore, pedagogical concerns related to innovation and entrepreneurial education have been raised in both types of universities i.e., public and private universities. Results from empirical studies suggest that access to higher education reduces the individuals' intention to engage in entrepreneurial activities (Wu and Wu, 2008). But other studies show an opposite effect (Blanchflower and Meyer, 1994; Zhang, Duysters and Cloudt, 2014). Hence, a study is required to compare entrepreneurial intentions of engineering students studying in public and private institutes.

Besides engineering education, gender can also influence entrepreneurial intentions among students. Gender role stereotypes lead to gender

typing of jobs as predominantly feminine or masculine (Heilman, 1983). Some studies point at significant gender differences (Mueller, 2004; Garcia and Moreno, 2010; Yordanova and Tarrazon, 2010), while other studies negate any gender-related differences (Kourilskva and Walstadb, 1998; Maxfield, Shapiro, Gupta and Hass, 2010). Despite the converging roles of males and females in today's scenario, intentions to initiate an enterprise may vary among men and women. Hence, present investigation was undertaken to compare entrepreneurial intentions of male and female students of public and private engineering institutes in India.

Review of Literature

Entrepreneurship has always been an interesting topic which is being discussed not only by economists and sociologists but also by psychologists. Research on entrepreneurship has been instrumental in identifying and framing many of the key contextual factors that are necessary to support entrepreneurial activity (Pennings, 1980; Bruno and Tyebjee, 1982). Entrepreneurial intention has evolved as a foremost construct within the entrepreneurship literature over the past few decades (Drennan, Kennedy and Renfrow, 2005) and still is of interest to researchers due to its importance in development for many countries (Hart and Harrison, 1992; Graham and McKenzie, 1995; Nabi and Holden, 2008).

Hytti, Passio and Tommi (2005) considered the intention of entrepreneurship as a career option in Finland and reported that students with lower engineering degrees are more inclined to pursue entrepreneurship as a career option. However, students with higher engineering degrees and social studies showed the opposite.

Dabbagh and Menasce (2006) undertook a study to examine students' overall perceptions of the engineering profession in a first-year course in engineering, and the effect of a pedagogical approach aimed at exposing students to engineering entrepreneurship and their perceptions of engineering entrepreneurship. Souitaris, Zerbinati and Al-Laham (2007) have studied the effect of

entrepreneurship programs on entrepreneurial attitudes and intention of science and engineering students in order to confirm (or disconfirm) conventional wisdom that entrepreneurship education increases the intention to start a business. The results showed that the programs raise some attitudes and the overall entrepreneurial intention and that inspiration (a construct with an emotional element) is the programs' most influential benefit.

Wu and Wu (2008) explored the relationship between Chinese university students' higher educational background and their entrepreneurial intentions using structural equation modeling. The results suggest that diversity of educational background offers plausible explanations on the difference of entrepreneurial intentions of Chinese university students.

Sanchez and Orazio (2012) conducted a study on gender differences in entrepreneurial intentions and traits frequently linked to entrepreneurship (internal-external locus of control, entrepreneurial self-efficacy, risk taking propensity and pro-activeness) using a sample of 535 women and 283 men students in Spanish University. The study showed gender differences in entrepreneurial intention and entrepreneurial self-efficacy, in the sense that men felt themselves more efficient and oriented to create a new venture than women.

Female and male entrepreneurs usually operate in different sectors and pursue different ways to develop their business. Therefore, increased number of female entrepreneurs means increased entrepreneurship variety in the economy (Verheul, Stel and Thurik, 2004). The Theory of Planned Behavior provides a general framework to analyse the entrepreneurial intention of a person (Ajzen and Fishbein, 1980; Ajzen, 1987, 1991).

Francisco and Yi-wen (2006) investigated the entrepreneurial intention model among a sample of 533 individuals from two different countries, Spain and Taiwan. As per the study, the demographic variables have relatively few significant effects on entrepreneurial intention.

The effect of gender (being male) and having work experience had a considerable effect on self-efficacy.

The influence of personal action on entrepreneurial intention is the largest in Spain, whereas self-efficacy has the strongest influence on entrepreneurial intention in Taiwan.

Taking as a basis the scientific literature about gender differences in career-related processes (Abele, 2000) and person-organization fit (Cable and Judge, 1996) a study is required to identify as to whether gender roles and stereotypes can cause differences between entrepreneurial intentions and choices?

Hence, present study attempts to compare entrepreneurial intentions of male and female students of public and private engineering institutes in India.

Objectives of the Study

- To study and compare gender differences among students of government engineering institutes and private engineering institutes with respect to entrepreneurial intentions.
- To explore new vistas of research and develop a base for application of the findings in terms of implications of the study.

Hypothesis of the Study

Null and alternate hypothesis have been formulated for the purpose of the study. The alternate hypothesis is as follows:

- H_{a1} : There is a significant difference among male students of government engineering institutes, male students of private engineering institutes, female students of government engineering institutes and female students of private engineering institutes with respect to entrepreneurial intentions.

Research Methodology

The present investigation examines the entrepreneurial intention among engineering

students in Indore district of Madhya Pradesh, India. It aims to compare entrepreneurial intentions among male and female students of government and private engineering institutes of Indore district of Madhya Pradesh, India.

The study is based on primary data that is collected through a mostly close-ended questionnaire. The research instrument used to collect data was based on scale developed and tested by Linan and Chen (2009), and Asmara, Djatmika and Indrawati (2016).

The questionnaire consists of 11 close-ended questions based on an interval scale. Respondents were asked to indicate their degree of agreement with each of the questions on a five-point Likert scale. The secondary data was collected through various research magazines, journals and newspapers.

In order to select the sample, multi-stage random sampling technique was used to select the sample frame. In Stage 1, all government and eight private engineering institutes which had the highest intake of students as per Directorate of Technical Education, Madhya Pradesh 2018 were taken for study. In Stage 2, from the selected group of engineering institutes, a total of 600 students were interviewed.

The number of students selected for study from government engineering institutes were 300 (150 male students and 150 female students) and 300 students were selected for study from private engineering institutes (150 male students and 150 female students). An attempt was made to include students from all selected engineering institutes so from each institute around 37 students were interviewed.

One sample KS test and One-way ANOVA was used to analyze the data. The data was analyzed using a window based Statistical package of the Social Science (SPSS).

Data Analysis

- *Item Total Correlation*

Questionnaire adopted in this study consisted of 11 questions; item total correlation was used in order to check the normality of the sample. As

the sample size was 600, items with correlation value less than 0.1948 should be dropped.

All the items in the study had correlation values more than 0.1948 thus no item was dropped from the questionnaire.

- *Reliability of the Measures*

Reliability of the measures was assessed with the use of Cronbach's alpha on all the 11 items. As a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and a good indication of construct reliability (Nunnally, 1978). The Cronbach's alpha for the questionnaire is (0.931). Hence, it can be considered as reliable and can be used for analysis.

- *Kolmogorov- Smirnov Test*

Kolmogorov- Smirnov test is performed to test if the values follow normal distribution. This test is essential to decide the statistical test that is to be applied to compare the averages of respondents. The result of the test (table no. 1) shows that values in entrepreneurial intention among students follow normal distribution hence ANOVA can be used for comparing means.

Table 1: Kolmogorov- Smirnov Test

Kolmogorov-Smirnov ^a			
	Statistic	Df	Sig.
VAR00001	.073	600	.105

a. *Test distribution is normal*

b. *Calculated from data*

**Note: Author's calculation*

- *One-way ANOVA Test Results*

Table no. 2 portrays the results of One-way ANOVA test for impact of gender differences on entrepreneurial intentions among engineering students.

Table 2: One-way ANOVA Test Results for Engineering Students

Particulars	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.416	3	2.139	2.448	.063
Within Groups	520.582	596	.873		
Total	526.998	599			

**Note: Author's calculation*

It is evident that the F value for between groups is 2.448 and p value is 0.63 therefore, null hypothesis H_{01} can-not be rejected at five percent level of significance. It means that entrepreneurial intentions of male and female students in government and private engineering institutes do not significantly differ in their mean values. This result is also supported with the entrepreneurship literature. In previous research some studies negate any gender-related differences (Kourilskva and Walstad, 1998; Maxfield, Shapiro, Gupta and Hass, 2010).

Gupta, Turban, Wasti and Sikar (2009) examined the role of socially constructed gender stereotypes and their influence on men and women's entrepreneurial intentions. They found that men and women did not differ in their entrepreneurial intentions. Carter (1997) found that both men and women starting businesses desired autonomy and independence, but for women it was their highest work value. In a comparison of the values of entrepreneurs and managers, Fagenson (1993) found more similarities among women and men than differences. Women were found to value equality more than men, and men tended to value family security more than women. Goksel and Belgin (2011) have also found that female and male students are not different in terms of entrepreneurial intention.

Conclusion

In the era of globalization, entrepreneurship and entrepreneurs have been declared as highly essential. The decision to become an

entrepreneur can be considered as intentional and taken with conscious efforts. Therefore, it seems reasonable to analyze how the decision is being taken. This study was performed to explore the entrepreneurial intentions of engineering students in Indore, India. 2x2 (unequal) ANOVA analyses were executed to examine the differences between male and female students from government and private engineering institutes to study their entrepreneurial intention. The results of the study revealed that entrepreneurial intentions of male and female students in government and private engineering institutes does not significantly differ in their mean values. This reflects that female inclination towards entrepreneurship as a career option is equally motivated as male. Hence, institutes should develop programs to encourage students to consider their entrepreneurial career.

The results of this study also have implications for educators looking to gain a better understanding of students' psychological characteristics and intention to become entrepreneurs. Such research would provide them insight into how to develop programs so as to improve specific attributes that can lead individuals to be more entrepreneurial. Both government and private institutions should focus on sound frameworks in order to develop and implement effective educational strategies in order to promote entrepreneurship.

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An Empirical Analysis of the Auctioning Strategy in the Indian Premier League 2018

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Abstract:

Indian cricket is seen by many as a national institution as its rise is associated with the rise of the nation. Since 2007, Indians have developed a taste for a fast-paced, three-hour version of a game whose then short form took all day. Selection of the players in this version is done through Auctions. The present study aims to identify the principal economic, behavioural factors and cricketing attributes which have affected the decision of the franchisees while bidding for players in the IPL auction 2018 using principal component analysis for each of the eight IPL teams. It was found that for batting strike rate was the key variable for Chennai Super King (CSK), batting average for Royal Challengers Bangalore (RCB), batting strike rate for Kings XI Punjab (KXI) and Delhi Daredevils (Delhi), past performance for Sun Risers Hyderabad (SRH). These factors appear to have been accorded relevance while developing a bidding strategy for selecting the players for the team. Likewise, it was found that the key variable for Kolkata Knight Riders (KKR) was batting average, batting strike rate played a key role for Mumbai Indians (MI) and lastly for Rajasthan Royals (RR) batting average and age were the key variables.

Key Words: Auctions, Auctioning Strategy, Indian Premier League (IPL), Cricket, Principal Component Analysis

Introduction

Indian cricket is seen by many persons as a national institution, as its rise is associated with the rise of the nation.

Lalit Modi dreamt to launch a domestic cricket league in India- one with city-based teams like football and basketball franchises in the United States; and in December 2007 he was able to finalize plans for such a venture—The Indian Premier League (IPL). With \$25 million in seed money from the Board of Control for Cricket in India (BCCI) to recruit players, he still faced much risk and uncertainty.

Would Indians enjoy a fast-paced, three-hour version of a game whose current short form took all day? Would they root for teams based in various Indian cities instead of for a national team? Would the BCCI and other important cricket boards around the world buy into this new format? Thus, Modi's task to achieve his

dream was to create the right set of incentives to motivate players, broadcasters, franchise owners, and the various cricket boards to support the IPL.

What kinds of deals to strike to guarantee long-term commitment without conceding too much of the earnings he expected the league to generate? And what should he do to ensure that the IPL would become a permanent part of the Indian sports landscape? The answer to so many unanswered questions lies in the strategy which the team owners keep in mind while buying players in the auctions because that will only decide the entire fate of the game.

Auctions usually take a game theoretic approach, but we have tried to provide an econometric bend to it by taking into account the batting skills that the franchisees consider while deciding the price to bid for the players while auctioning.

Cricket Boards – The Journey So Far

Organized cricket has long been organized in each of the major Test playing countries by a single cricket board, such as the BCCI in India. Each of these boards reports to the International Cricket Council (ICC), which is the worldwide organizing body for the sport. ICC was formed in 1909 (it was then called the Imperial Cricket Conference); and the BCCI was formed in 1928. From the beginning, these sporting bodies have been run as non-profit institutions, staffed by volunteer administrators who are often wealthy patrons or former cricket players. These organizations are monopolies that control all aspects of the game, including the selection and payment of players, the scheduling of domestic and international tournaments, and the introduction of new rules and formats of the game. Profits generated by national cricket teams (from ticket sales, broadcasting revenues, etc.) flow directly to the coffers of these boards.

Formats of Cricket

By 2010, international cricket matches were being played in three different formats as follows:

Test cricket is the oldest and most prestigious form of cricket, and its matches take the longest time to play. It is considered the ultimate test of playing ability, both for teams and for individual players. The first Test matches were played without any time limit. By 2007 test matches were played over five days, two innings per side, and could still end in a draw if all four innings were not completed.

One Day International differs from Test cricket in three ways: it is played over seven or eight hours during a single day, each side plays only one inning, and each side plays at most 50 overs.

The format was introduced in 1977 by Australian media tycoon Kerry Packer, who sought a game better suited to television than Test cricket; his format was designed to be faster and to ensure a winner. Indian masses developed a seemingly limitless appetite for one-day cricket after their unheralded national

team won the one-day World Cup of Cricket in 1983. There were several reasons for this interest. Unlike the populations of developed countries, most Indians could not afford to spend much money on entertainment. Television was relatively new at the time to small-town and rural India, and one-day cricket broadcasts provided free entertainment. ODI cricket also gained the passionate support of sports enthusiasts in a country whose other national teams often lost ground to those of richer countries, which could afford expensive facilities and staff as well as top-level international coaches.

Twenty20 cricket is played over about three hours and guarantees a winner. Each side plays one inning comprising 20 overs at most. The emphasis of this highly shortened form of the game is on furious hitting and fielding. The strenuous pace of the game demands athleticism and a high level of physical fitness. Twenty20 players are often younger than those in Test and ODI cricket. The English Cricket Board (ECB) designed Twenty20 cricket in 2003 as a response to a continued loss of interest in cricket observed through steady decline in match attendance, television viewership, and the associated revenues in Britain. Market research by the ECB suggested that a shorter, more entertaining version of cricket might appeal to a broader audience. Twenty20 cricket was positioned as a “perfect blend of sports and entertainment.” It featured loud music, dancers, cheerleaders, and wired-up players providing commentary on the game as it was being played. Cricket purists scoffed at the gimmicks and felt that Twenty20 was a travesty. Nonetheless, the format proved to have great appeal in Britain. As experts decried the technical inelegance of its play, spectators enjoyed being able to watch a complete game in three or four hours.

By 2005 the Twenty20 format had gained a reasonable level of popularity in most major cricket-playing nations. India remained an exception; its national team had played no Twenty20 international matches. One reason was that the Indian team already had a packed schedule of ODIs and Test matches. It was also believed that more cricket, even if it could be fit

in, would increase the risk of injuries to already overworked players, and create a situation in which too much live cricket was broadcast on television, leading to possible loss of interest in the sport. Another reason was that the BCCI was comfortable with the money and crowd it earned from one-day and Test cricket; each ODI, for example, fetched it around \$7.5 million in television revenue. Thus, there appeared to be no compelling reason to introduce an unproven format that could only cannibalize ODIs and might bring in fewer media revenue per game due to its shorter duration. The BCCI, therefore, took a wait-and-see attitude. The wider reaction in India to Twenty20 was mixed.

The Indian Cricket League (ICL) operated between 2007 and 2009 in India. It was a private cricket league funded by Zee Entertainment Enterprises. Its two seasons included tournaments between four international teams (World XI, India, Pakistan and Bangladesh) and nine domestic teams notionally located in major Indian cities as well as Lahore, Pakistan and Dhaka Warriors based in Dhaka, Bangladesh. The matches were played in the Twenty20 format. There was also a planned domestic 50-over tournament, but this did not materialize. While its establishment pre-dated the Indian Premier League, the ICL folded in 2009. Aside from commercial factors, the ICL lacked the support of the Board of Control for Cricket in India and International Cricket Council.

On 13 September 2007, the BCCI announced the launch of a franchise-based Twenty20 cricket competition called Indian Premier League whose first season was slated to start in April 2008, in a "high-profile ceremony" in New Delhi. BCCI vice-president Lalit Modi, said to be the mastermind behind the idea of the IPL, spelled out the details of the tournament including its format, the prize money, the franchise revenue system and squad composition rules. The league's format was similar to that of the Premier League of England and the NBA in the United States. In order to decide the owners for the new league, an auction was held on 24 January 2008 with the total base prices of the franchises costing around \$400 million. At the end of the auction,

the winning bidders were announced, as well as the cities the teams would be based in: Bangalore, Chennai, Delhi, Hyderabad, Jaipur, Kolkata, Mohali and Mumbai. In the end, the franchises were all sold for a total of \$723.59 million.

Literature Review

Some of important literature reviews are as follows:

Kohli (2009) studied the vision of Lalit Modi for the launch of IPL which came to reality on 12th September 2007. The inspiration was the concept of this form of cricket that it will result in 3 hours and had a maximum of 20 overs. Modi partnered with IMG world, one of the biggest sports management companies to help him develop the model for IPL. Various members of BCCI were initially against it, but then players like Sachin Tendulkar, Virendra Sehwag, Sourav Ganguly and many more supported this modern form of cricket. The cricket league fetched BCCI an increase in revenue from the period of 1993-2003 100 million dollars to 2006-2010 almost 700 million dollars. This form of cricket opened up avenues for the young players who were not a part of the national cricket team.

Singh (2010) studied the technical efficiency of the IPL teams by using data envelopment analysis and analyzed the impact of the law of diminishing marginal utility (DMU) on teams' performance. The author examined the game from the aspect of the number of spectators, wages of the coach, etc. Returns to scale and scale efficiency of teams were also taken into account. It was found that Chennai Super Kings, Delhi Daredevils, Rajasthan Royals and Kings XI Punjab achieved technical superiority over the other teams.

Swartz (2011) analyzed the primary objectives of IPL 2008 viz., determination of the player's team and salary determination. The methodology used was the development of the skill set of the player which lead to better standing and henceforth more salary and auction price of the player. It was found that 1% development in the particular component of the player led to a 1% increase in the incremental

skill set. Comparisons were made with games like NBA, Highland Dance Points and PGA Prize Money wherein certain high performers received points or salary accordingly and their status was decided in the game on this basis.

Parganas, Anagnostopoulos and Chadwick (2015) investigated the contribution of factors to the growth of the valuation of the English Football Premier League. The valuation of a team was made on the basis of qualitative aspects like a number of goals scored (irrespective of the matches won) believing that increased number of goals increases the price valuation of the team which shoots up the revenue generated thus encouraging big businesses to fund that team or club. The primary emphasis was on the examination of task orientation, and goal setting in the game which further led to monetary gains, technological development and creation of new business models.

Devanur (2015) drafted a player auctioning strategy and compared it with the current strategy. He recognized that the current auction involved regressive bidding against a player and the highest bidder being the one to acquire; while the new strategy was bidding randomly for the player and the highest bidder got to choose any of the remaining players from the pool. The new strategy by eliminating the element of bias was proven better than the existing strategy.

Bhattacharya et al. (2016) provided an econometric bend to the concept of the IPL auction using the tools of game theory. The expected utility was calculated to find the percentile rank of each player which further decided the base price which had to be paid for in the following auction. Dummy variables were considered for the batsman and the bowler. On the basis of the regression analysis, bidding strategy was devised for each team by identifying the factors that the respective teams should consider while bidding in the player auctions.

In the literature reviewed, the gap found was the paucity of work done for the sports in India, another gap was the absence of empirical work

using an econometric technique like multiple regression or principal component analysis on the same.

Objectives of the Study

Keeping the gaps in consideration, the objectives of the study are as follows:

- To examine the role of batting strategies namely batting strike rate, batting average used by franchisees while selecting a batsman during the IPL auctions 2018.
- To find out the principal factors out of batting strike rate, batting average, the age of the player, past performance (where the past performance was measured on the basis of the number of the '30s' scored by the players in the year 2017. Since the two teams, Chennai Super Kings and Rajasthan Royals were banned from IPL for the year 2017 the past performance was measured for the latest year for which the data was available) that needs to be considered while deciding whether to select the player or not.

Thus, in a nutshell, the key objectives are to analyze the economic, behavioural factors and cricketing attributes which affected the decision of the franchise while bidding for players in the IPL auction 2018.

Research Methodology

Data for the year 2018 was derived from www.cricbuzz.com, bigbashboard.com, espnricinfo.com, and IPLT20.com for all eight teams viz., Chennai Super Kings (CSK), Royal Challengers Bangalore (RCB), Kolkata Knight Riders (KKR), Kings XI Punjab (KXI), Sun Risers Hyderabad (SRH), Delhi Daredevils (DD), Mumbai Indians (MI), and Rajasthan Royals (RR).

The possible variables that could impact the bidding price while selecting a batsman were batting average, batting strike rate (in percentage), past performance of the player and the age of the player. Past performance which was measured in terms of the number of the '30s' scored by the players was also an important variable.

Therefore, a multiple regression analysis has been done through the ordinary least square method by regressing the independent variables on the dependent variable namely the price bid for the player. However, it was observed that since the different variables used were measured in different units, therefore, using them in one single equation might lead to spurious results, therefore, the study used principal component analysis (PCA) to identify the variables that were considered as the principal variables while bidding for a player.

Data Analysis

Given the skewness of the T20 format game towards batting, this paper has focused on analyzing the impact that batting attributes of the players had on the price at which they were bid for in the auctions in the season of IPL 2018. Though bowling and batting are two sides of the same coin, the precedence that batting has for the franchisees have led to a discrepancy between the prices that the batsmen and the bowlers receive in the auctions. It is revealed by the analysis that the discrepancy in prices is narrowing down and will further continue to narrow as it has been realized that the supply of elite bowlers is less than that of the batsmen. Results of principal component analysis for eight teams are presented in table Nos. 1 to 8 given as appendices. Scree plots for eight teams are portrayed in figure no. 1 given as an appendix at the end. Team wise discussion are as follows:

Chennai Super Kings

On applying the principal component analysis (see Appendix, Table no.1), it was found that the variation could be explained by a linear combination of 2 components. But as the scree plot (Fig no. 1) indicates the second eigenvalue is very close to one and one component can explain 58% of the variation, therefore, seeing the eigenvector (loadings) section batting strike rate was identified to impose the maximum load and thus can be said to be considered while developing the bidding strategy for selection of the players for the team.

Royal Challengers Bangalore, Kings XI Punjab, Sun Risers Hyderabad, Delhi Daredevils

It was found that a linear combination of 2 components could explain $57+27=84\%$, $51+29=80\%$, $52+27=79\%$, $59+28=87\%$ of the variation (Table 2,4,5,6) but as indicated by scree plot (Fig 1) it is suggested to include only 1 component as it can explain more than half of the variation and from the Eigen matrix it can be inferred that that one variable is batting average for RCB, batting strike rate for KXI and Delhi, past performance for SRH which can be said to be accorded relevance while developing a bidding strategy for selecting the players for the team.

Kolkata Knight Riders, Mumbai Indians

Eigenvalue table (Table 3,7) and the scree plot (Fig 1) indicated that one component could explain 61%, 62% of the variation and the eigenvector table identified that one key variable as batting average for KKR and batting strike rate for MI respectively.

Rajasthan Royals

For RR eigenvalue table (Table 8) indicated the significance of 2 components but one component had an eigenvalue very close to one and therefore could be ignored. But since the variation explained by the inclusion of the 2nd component was 27% which is a major chunk thus 2 components were considered which could explain $46+27=73\%$ of the variation in total. The two components identified were batting average and age for Rajasthan Royals.

Conclusion

The key variables that explained maximum variation and impacted the selection process of the players with special emphasis on batsmen and all-rounders for each of the 8 IPL teams were identified. However due to availability of limited data only batsmen and all-rounders were considered for the study. For Chennai Super kings batting strike rate was the key variable while it was found that batting average for RCB, batting strike rate for KXI and Delhi, past performance for SRH can be said to be accorded relevance while developing a bidding

strategy for selecting the players for the team. Likewise, it was found that the principal variable for KKR was batting average and for MI batting strike rate played a key role and lastly for RR batting average and age were the principal variables. Though the study has focused on identification of key batting attributes in a player while bidding for the player in the IPL auction, variables affecting the selection of bowlers could be another area of research and could be a contribution to the scanty research that has been conducted on the area.

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APPENDICES

**Table 1 (a&b): PCA Results for CSK
EigenValues (Sum = 4, Average = 1)**

No.	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	2.345054	1.246463	0.5863	2.345054	0.5863
2	1.098591	0.634562	0.2746	3.443644	0.8609
3	0.464028	0.371701	0.1160	3.907673	0.9769
4	0.092327	---	0.0231	4.000000	1.0000

Eigen Vectors (Loadings)

Variable	PC1	PC2	PC3	PC4
Batting Average	0.558323	0.434737	0.202628	-0.676920
Strike Rate	0.590838	0.345288	0.059103	0.726769
Age	-0.472953	0.435275	0.757211	0.116116
Past Performance	-0.339854	0.708742	-0.618127	-0.010166

**Table 2 (a&b): PCA Results for RCB
EigenValues (Sum = 4, Average = 1)**

No.	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	2.294091	1.212651	0.5735	2.294091	0.5735
2	1.081440	0.626739	0.2704	3.375531	0.8439
3	0.454701	0.284932	0.1137	3.830231	0.9576
4	0.169769	---	0.0424	4.000000	1.0000

Eigen Vectors (Loadings)

Variable	PC1	PC2	PC3	PC4
Batting Average	0.603239	-0.250004	0.027505	-0.756865
Strike Rate	0.466851	-0.621600	0.229265	0.585747
Age	0.394432	0.648375	0.639372	0.123438
Past performance	0.512422	0.361553	-0.733406	0.262333

Table 3 (a&b): PCA Results for KKR
Eigen Values (Sum = 4, Average = 1)

No.	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	2.442231	1.606221	0.6106	2.442231	0.6106
2	0.836010	0.290113	0.2090	3.278242	0.8196
3	0.545897	0.370035	0.1365	3.824138	0.9560
4	0.175862	---	0.0440	4.000000	1.0000

Eigen Vectors (Loadings)

Variable	PC1	PC2	PC3	PC4
Batting Average	0.516567	0.422349	-0.524049	-0.529295
Strike Rate	0.481891	0.575638	0.462342	0.471871
Age	0.494079	-0.486180	0.557103	-0.457330
Past Performance	0.506780	-0.503876	-0.448607	0.536688

Table 4 (a&b): PCA Results for KXIP
Eigen Values (Sum = 4, Average = 1)

No.	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	2.044148	0.879286	0.5110	2.044148	0.5110
2	1.164862	0.699544	0.2912	3.209010	0.8023
3	0.465318	0.139646	0.1163	3.674328	0.9186
4	0.325672	---	0.0814	4.000000	1.0000

Eigen Vectors (Loadings)

Variable	PC1	PC2	PC3	PC4
Batting Average	0.540717	-0.447088	-0.172307	-0.691411
Strike Rate	0.526800	-0.480405	0.163738	0.681823
Age	0.462585	0.536808	-0.681070	0.184377
Past Performance	0.464889	0.530245	0.692563	-0.151901

**Table 5 (a&b): PCA results for SRH
Eigen Values (Sum = 4, Average = 1)**

No.	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	2.080418	0.981877	0.5201	2.080418	0.5201
2	1.098540	0.619051	0.2746	3.178958	0.7947
3	0.479489	0.137937	0.1199	3.658447	0.9146
4	0.341553	---	0.0854	4.000000	1.0000

Eigen Vectors (Loadings)

Variable	PC1	PC2	PC3	PC4
Batting Average	0.549724	0.336946	-0.583892	0.493297
Strike Rate	0.382376	0.687153	0.582306	-0.206227
Age	0.472336	-0.556962	0.508607	0.456081
Past Performance	0.573142	-0.322616	-0.247607	-0.711420

**Table 6(a&b): PCA Results for DDR
Eigen Values (Sum = 4, Average = 1)**

No.	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	2.371748	1.248394	0.5929	2.371748	0.5929
2	1.123354	0.781548	0.2808	3.495102	0.8738
3	0.341806	0.178714	0.0855	3.836908	0.9592
4	0.163092	---	0.0408	4.000000	1.0000

Eigen Vectors (Loadings)

Variable	PC1	PC2	PC3	PC4
Batting Average	0.530995	0.460979	-0.237818	0.670064
Strike Rate	0.571879	0.048274	0.792841	-0.205005
Age	-0.586995	0.143004	0.561019	0.565901
Past Performance	-0.215489	0.874481	-0.010146	-0.434446

**Table 7 (a&b): PCA Results for MI
Eigen Values (Sum = 4, Average = 1)**

No.	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	2.490125	1.656431	0.6225	2.490125	0.6225
2	0.833694	0.324603	0.2084	3.323819	0.8310
3	0.509091	0.342000	0.1273	3.832909	0.9582
4	0.167091	---	0.0418	4.000000	1.0000

Eigen Vectors (Loadings)

Variable	PC1	PC2	PC3	PC4
Batting Average	0.442682	0.562479	0.698302	-0.004877
Strike Rate	0.516738	-0.557510	0.125942	0.637419
Age	0.569039	-0.341833	-0.090577	-0.742388
Past Performance	0.461745	0.505915	-0.698791	0.206236

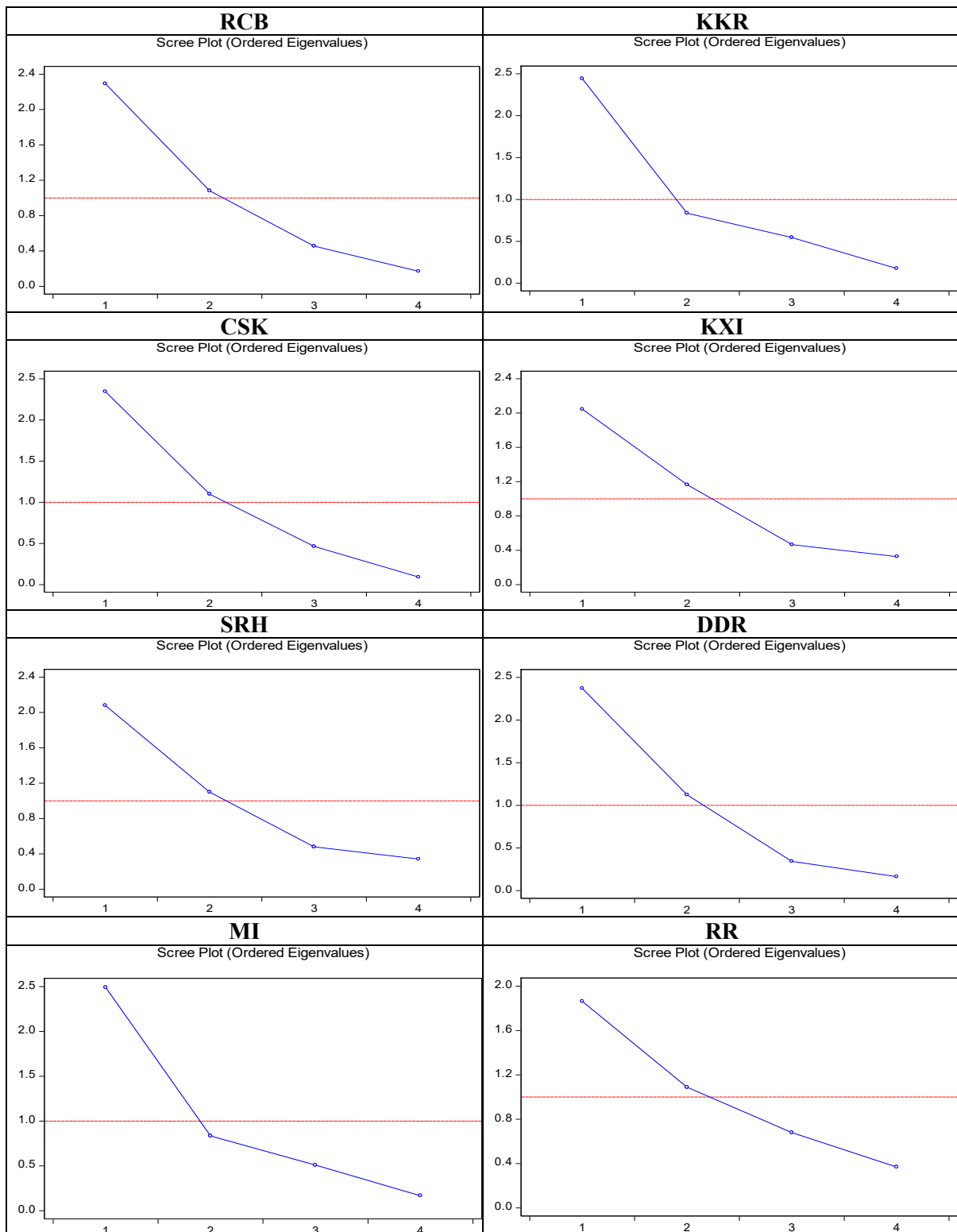
**Table 8 (a&b): PCA results for RR
Eigen Values (Sum = 4, Average = 1)**

No.	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	1.863491	0.774598	0.4659	1.863491	0.4659
2	1.088893	0.409746	0.2722	2.952384	0.7381
3	0.679147	0.310679	0.1698	3.631532	0.9079
4	0.368468	---	0.0921	4.000000	1.0000

Eigen Vectors (Loadings)

Variable	PC1	PC2	PC3	PC4
Batting Average	0.646101	-0.096201	0.049849	0.755522
Strike Rate	0.590910	-0.079646	0.581178	-0.553817
Age	-0.124816	0.874853	0.427769	0.189911
Past Performance	0.466690	0.468010	-0.690478	-0.293950

Figure No. 1: Scree Plots for Each Team



Women Entrepreneurship in Agro-Based Units in Varanasi

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Abstract:

In this e-era, while the country has moved towards digital signature, Indian women are still tracing their very existence in the field of entrepreneurship. The primary data for the study has been collected from 42 women entrepreneurs operating in agro based units in Varanasi through schedule method using five rating Likert's scale. The data was found to be reliable (Cronbach's alpha = 0.802) but not normal (Shapiro-Wilk test's p-value < 0.05) therefore Mann Whitney U-test was used. It can be inferred from the data analysis that huge problems are being faced by the unit's operating inter-city related to finance and marketing areas. Three major variables finance problems, marketing problems and 'HR & production' problems are found to be significantly correlated and are impacting working of the units. The problems need to be tackled using focused strategic up-lift. The training and development institutes must be started and strengthened especially for women entrepreneurs at the Varanasi city, accompanied by routine workshops and exhibitions. The burning need of export houses need to be addressed to improve export potentiality. Financial issues also need to be tackled by using the banking institutions properly. Marketing issues are huge as it depends upon market survey and research, which requires patience and precision.

Key Words: Women Entrepreneurship, Marketing Problems, Finance Problems, Human Resource (HR) & Production Problems

Introduction

In this e-era, while our government continues to focus on boosting our economy towards digitisation, the other half-population comprising women is still fighting for socio-economic equality. As per the 11th census, the economic participation of women in our country is very low (25.10% of the total women population).

For the development of any country, it is necessary to have equal contribution from both men and women. Notwithstanding, the main reason for the inactive economic contribution of women is our socio-cultural beliefs, in which they are not allowed to act parallel to the men. These hurdles are deeply rooted in our society. But the increasing literacy level is changing the thought of Indian society.

Despite all these barriers, Indian women have proved time & again that if they get the opportunity, they even can do better than men. Many Indian women like Chandra Kochhar, Roshini Nadir, Kiran Mazumdar, Shobhana Bhartia, Indra Nooyi, Naina Lal Kidwai, Indu Jain, Vandana Luthra, etc. have made a remarkable contribution and were placed at the top position of their companies. They set a milestone in the area of entrepreneurship and Indian business world.

Indian women can also become good entrepreneurs if they get the opportunity. However, in the developing countries there exist problems of man, money, material and management. Any start-up requires proper capital accompanied with skilled manpower and effective management; but it is not possible

in India that every woman can arrange the required capital by its own to start their business even when she may have a potential to become a successful entrepreneur.

Entrepreneurial development has been an efficacious tool for improving self-employment thereby improving the women empowerment level. Huge amount of four Ms, viz., Man, Money, Material and Management have been spent to develop and improve the entrepreneurial abilities. Training and development programs are organised by various governments and non-government organisations from time to time, but the impact of such activities is not found to be stellar. In developing countries like India, need for support and uplift of the weaker section has become an eminent problem. Without jeopardising the existing essence of development, need has aroused to promote gender equality thereby contributing towards holistic development of national economy and society at large. Women entrepreneurship strengthens not only the base of gender equality but it is also an important step towards scintillating growth of GDP.

Women entrepreneurship are generally found indulged in micro units related with agro processed foods. In Varanasi, major agro products being made by the units are: pickles, jams, souses, papads, baris, murabbas, coir products, handloom products related to crafts-work, etc. In such units, women are highly involved at various levels. From management to the worker, most of them are women. Though such units are having very less production and thereby lesser coverage but it provides huge valour among the women power of different levels. Not only economic but also social development is involved. Long term benefits are generated, self-reliance is promoted and overall effective growth of the area is achieved. In Varanasi, these entrepreneurs are having low levels of technological advancement and structural stability which further leads to various inter-related problems.

The present study has been undertaken to identify issues and challenges confronting women entrepreneurs in agro based units in Varanasi.

Literature Review

Some important reviews are discussed as follows: Hackler, Harpel and Mayer (2008) performed a study on finding the relationship between elements of human capital and self-employment among women. The study showed that self-employed women differ on most human capital variables as compared to the salary and wage-earning women.

Bowen and Hisrich (1986) compared and evaluated various research studies done on entrepreneurship including women entrepreneurship. They summarised that female entrepreneurs are relatively well-educated in general but somewhat lack in management skills, high in internal locus of control, more masculine, or instrumental than other women in their values likely to have had entrepreneurial fathers, relatively likely to have first born or only children, unlikely to start business in traditionally male dominated industries and experiencing a need of additional managerial training.

Cohoon, Wadhwa and Mitchell (2010) investigated a detailed exploration of women entrepreneurs' motivations, background and experiences. The study is based on the data collected from successful women entrepreneurs. Out of them 59% had founded two or more companies. The study identifies top five financial & psychological factors motivating women to become entrepreneurs. These are a desire to build wealth, the wish to capitalize their own business ideas they had, the appeal of start-up culture, a long-standing desire to own their own company, and working with someone else did not appeal to them.

Singh (2008) examined the reasons and influencing factors behind entry of women in entrepreneurship. He explained the characteristics of their businesses in Indian

context and also obstacles & challenges. He highlighted the obstacles in the growth of women entrepreneurship mainly as lack of interaction with successful entrepreneurs, social un-acceptance as women entrepreneurs, family responsibility, gender discrimination, missing network, low priority given by bankers to provide loan to women entrepreneurs

Tambunan (2009) made a study on developments of women entrepreneurs in small and medium enterprises Asian developing countries. The study found that in Asian developing countries SMEs are gaining overwhelming importance; more than 95% of all firms in all sectors on average per country. The study also highlighted that representation of women entrepreneurs in this region is relatively low due to factors like low level of education, lack of capital and cultural or religious constraints. Further most of the women entrepreneurs in SMEs are from the category of forced entrepreneurs seeking for better family incomes.

Sharma (2013) studied the women entrepreneurial development in India and highlighted that it is very low due to certain factors, like, India is a male dominant society, bank feels more risk to provide credit to women, women's dependence upon family, and inability to provide tangible security. They also suggested that the government should provide proper financial assistance, vocational training and education facilities and also encourage women decision making for empowering women entrepreneurship in India.

Sharma (2013) made a study on women entrepreneurship and found that there is a big gender gap between men and women entrepreneurs in India; and pointed out some financial and societal reasons for that gap. Further, Indian women are not so aware about the various schemes run by the government for assisting and empowering women entrepreneurship in India. Fazalbhoy (2014) studied the role of rural women entrepreneurship in the economic development

of the country and also identified that the factors like banking finance, SHGs, and government are failing in providing a conducive environment for the development of women entrepreneurship, registered in MSME in rural areas.

Objectives of the Study

The key objectives of the study are as follows:

- To study the present status of women entrepreneurs in agro based units in Varanasi.
- To study the issues and challenges faced by the agro based units operated by women entrepreneurs in Varanasi.
- To provide suggestive measures for improving the present status of women entrepreneurs in Varanasi.

Hypotheses of the Study

A set of null and alternate hypotheses were formulated for the purpose of study. The alternate hypotheses are presented as below:

- H_{a1} : There is a significant relationship between various categories of problems faced by the units operated by women entrepreneurs in Varanasi.
- H_{a2} : There is a significant difference between various categories of problems faced by units operating intra-city and units operating inter-city.

Scope of study

The present study is focused upon the challenges and opportunities of women entrepreneurs in micro agro based units in Varanasi district only. The work is focused over a niche area.

Major variables have been taken while performing the primary survey through the schedule method of questionnaire. The work is done taking into view the demand for root level survey for women entrepreneurship in Varanasi.

Research Methodology

The present study is focused upon the challenges and opportunities faced by women entrepreneurs in Varanasi district. These entrepreneurs are involved in performing activities related to micro-agro based units. The primary data has been collected from 42 women entrepreneurs who are operating micro-agro based units in Varanasi, selected through random sampling. Schedule method of questionnaire data collection based on five-point rating Likert scale has been used. Secondary data from the website of the Ministry of MSME and District Industries Centre has also been used. In addition, various periodicals, journals, books, newspapers, etc. have been taken into consideration for performing the research work. Data collected has been classified and tabulated into tables and graphs. Data analysis has been done with the help of appropriate statistical tools like Mann Whitney U-test, correlation analysis, mean, standard deviation, etc.

Data Analysis

Table no. 1 presents the strength of women entrepreneurs in agro based units in Varanasi district.

Table 1: Number of Women Entrepreneurs in Agro Based Units

Nature of Units	Total	Women Entrepreneurs
Agro-based units	237	57 (24.04%)

Source: District Industries Centre (2016)

It is evident from table no. 1 that there are 57 units which are led by the women entrepreneurs out of total 237. It was less than 1/4th of the total, which states the alarming stage of women participation.

For checking the reliability of the data, Cronbach's alpha has been used. The table no. 2 exhibits the reliability statistics.

Table 2: Reliability Statistics

Cronbach's Alpha	Standardized items	N of items
0.802	0.805	12

Source: Author's calculations

The value of alpha is very high (0.802), signifying a good level of reliability. Therefore, it is interpreted that the data is reliable and the respondents were sharing reliable responses.

Descriptive Statistics

Table no. 3 presents descriptive statistics (mean & standard deviation) for three sub-categories of problems

Table 3: Descriptive Statistics of the Variables

Descriptive Statistics		
Variable(s)	Mean	Standard Deviation
Finance problems	3.7857	.52484
Marketing	3.6762	.45682
'HR & Production' problems	3.3968	.47277
N	42	

Source: Author's calculations

The mean of the variables was near to the 'agree' level for finance problems (3.7857) and marketing problems (3.6762), while it was near to the 'neutral' level for HR & production problems (3.3968). Standard deviations for all three problems are less. Thus, all the three variables are collectively creating hurdles in the path of women entrepreneurship.

Testing of Hypotheses

The hypotheses were put to test as follows:

- H_{a1} : There is a significant relationship among various categories of problems faced by the units operated by women entrepreneurs in Varanasi.

Corresponding null sub-hypotheses are as follows:

- H_{01a} : There is a significant relationship between Finance and Marketing problems faced by the units.
- H_{01b} : There is a significant relationship between Finance and 'HR & Production' problems faced by the units.
- H_{01c} : There is a significant relationship between Marketing and 'HR & Production' problems faced by the units.

Correlation analysis has been used for analysing these null sub-hypotheses. Table no. 4 portrays the correlation matrix between various categories of problems.

Table 4: Correlation Matrix

Variables	Correlation Coefficient	P-value
Finance and Marketing problems	0.375	0.014
Finance and 'HR & Production' problems	0.231	0.141
Marketing and 'HR & Production' problems	0.323	0.037

**Source: Author's calculations*

The null sub-hypothesis H_{01a} , stands rejected as the p-value is below significance level (0.014) of 0.05. The null sub-hypothesis H_{01b} , stands can be accepted as the p-value is above significance level (0.141). The null sub-hypothesis H_{01c} , stands rejected as the p-value is below significance level (0.037).

Thus, two null hypothesis stands rejected out of three hypotheses stand rejected and corresponding alternate hypotheses can be accepted. It can be inferred that some categories of problems are related with each other, like 'finance and marketing,' problems, and 'marketing and HR and production' problems. The problems related with finance and "HR & production' are not found to be significantly related with each other.

Finance and marketing problems are having correlation coefficient of 0.375, finance and HR & production problems having correlation coefficient of 0.231, and marketing and HR & production problems are having correlation coefficient of 0.323, thus signifying low degree of positive correlation between various categories.

- H_{02} : There is a significant difference between different categories of problems faced by units operating intra-city and units operating inter-city.

Table no. 5 shows the normality test results for the data collected.

Table 5: Normality Test - Shapiro-Wilk

Variables	Statistic	Df	Sig.
Finance problems	0.896	42	0.001
Marketing problems	0.931	42	0.014
HR & Production problems	0.876	42	0.000

**Source: Author's calculations*

Shapiro-Wilk test suggests that data is non-normal. The three variables chosen were financial issues, marketing issues and HR & production issues. Their p-values were significant, 0.001, 0.014 and 0.000, respectively. Since the data doesn't stand normal, the Mann-Whitney U-test has been used to test the second null hypothesis. Table no. 6 shows the results of Mann Whitney U-test.

Table 6: Mann Whitney U-Test

Variables	P-value
Finance problems	0.009
Marketing problems	0.000
HR & Production problems	0.133

**Source: Author's calculations*

The categorical variables were units operating intra-city and units operating inter-city. The null hypothesis stands rejected and it can be inferred that these units were having significant differences in the field of finance problems (0.009) and marketing problems (0.000), while these were not having significant differences in

the area of HR & production problems (0.133). It can be inferred that the units which were operating intra-city were having significantly different perceptions about the problems which they were facing in the field of finance and marketing, when compared with those which were operating inter-city.

Problems of Women Entrepreneurs in Varanasi

Following are the main problems of women entrepreneurs, which were revealed during the data collection:

- *Financial Issues*

The women entrepreneurs who were dealing with manufacturing of low-priced products like pickles, sauces, jams, etc., were facing problems related to finance significantly. In financial issues, three sub-issues were considered viz. complexities in procurement of funds, high interest rates and problems in management of funds. In these three sub-issues, complexities and management issues were rated higher near agree level (mean = 3.95 and 3.86 respectively). While high interest rates were comparatively lower (mean = 3.55) than two mentioned sub-issues.

- *Marketing Issues*

In the survey, it was found that the women entrepreneurs were facing problems related to product, price, distribution, marketing research & promotion. Their mean score was 3.31, 3.43, 3.79, 3.93 and 3.93, respectively near to agree level (=4). It reflects that marketing research & promotional problems were highly faced by these women entrepreneurs operating in such units. Product packaging, decision of product storage and warehousing, product line selection, pricing strategies framework, distribution channels selection, distribution design selection; promotional mix selection, etc. were the major problems of these entrepreneurs.

- *Human Resource (HR) and Production Issues*

The units were facing problems with certain sub-issues like standard quality control (SQC), inventory control, high labour turnover and training & development issues. The mean score was 3.24, 3.02, 3.14 and 3.93, respectively. It reveals that the problem of training and development (3.93) was more as compared to other issues. The respondents were facing problems in T&D followed by SQC, high labour turnover and inventory control.

- *Miscellaneous Issues*

The agro based units are found struggling in the city of Varanasi. Many problems affecting their existence are being faced by these units. Besides, the societal factor is also negatively affecting the women entrepreneurship in Varanasi. Transportation and other basic amenities lack in the city which further affects the production and quality. Government support is lacking in the area, as govt. policies are not reaching to the ground level.

Suggestions

Some suggestions for improving the present status of women entrepreneurs in such units are given below:

- To open departments for women entrepreneurs in banking institutions which will work for providing seed capital to the women entrepreneurs, technical and financial suggestions, transaction monitoring facilities, subsidised interest rates, rapid loan facilities, etc. Such bank branches should also be opened in the areas like Chiraigaon, Bhojubeer, Sunderpur, Madhopur, Chowk, Shivpur, Badagaon, etc. which are having clusters of micro-agro based units.
- Export houses should be set up within the vicinity, keeping in view the export potentiality of agro-based units. The handlooms and banarasi sarees are the identity of Varanasi; their exports can also

be boosted if such export houses are established.

- MSME-DI and DIC should focus upon proper data warehousing and data mining, so that the policy makers can be helped properly. Up-to-date data are missing in the DIC.
- Training and development centres should be established by the government and regular workshops, seminars, exhibitions, etc. should be organized for fostering entrepreneurial abilities in women. Monthly training programs should be organised in the emerging/ advanced areas which involve practical usage of techniques of machine operation and digitisation.
- The education level in the city needs to be improved at the bottom level, as the women entrepreneurs are basically rural residents which creates hindrance due to certain interrelated problems of social mentality and men superiority complexion. These hindrances should be uprooted for long term development and gender balancing in the field of entrepreneurship.
- Special tax concessions should be given to such entrepreneurs for developing and expanding their units to large scale and attracting the potential one.

Conclusion

In the present study, the primary data has been collected from the women entrepreneurs engaged in agro based units at Varanasi. These entrepreneurs are having small scale turnover, with limited finance and other resources. They perform part time job as entrepreneurs, and full time as house-wife. From the study, it has been found that there are significant problems in the field of finance and marketing faced by these units. Human resource management can provide long term support, through improvement in T&D. In categorical data analysis, it was found that the intra-city and inter-city operating units were having significant differences in their problems. From the survey, it can be concluded that overall

assistance is required in the area of finance and marketing. These could be removed with the help of financial management and market research by some root level agency. This area is promising as it provides a large amount of rural employment and capital formation therefore needs special focus. The industrial estates of Karkhiaon and Chiraigaon have been tagged with agro-park and mini-agro-park status respectively, but no significant work has been done. Step-wise and tested steps must be taken for long-term improvement in the field of women entrepreneurship as well as agro based units. Public and private partnership is also required at base level for further established growth.

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**Punjab Maharashtra Cooperative Bank Ltd:
Issues Concerning Bank Advances**

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Abstract:

Punjab & Maharashtra Co-operative Bank (PMC), a Multi-State Scheduled Urban Co-operative Bank, has grown over 35 years having 137 branches spread over six states, and is caught in questionable financial governance of making loans of Rs. 6,300 crores, to one debt-stricken firm, Housing Development and Infrastructure Ltd (HDIL) which constitutes about 73% of the bank's total advances and also whose management has questionable credentials and have records of family friendship with the bank management. This case discusses various dynamics of the fraud at PMC.

Key Words: PMC, Fraud, Loans, Advances

Introduction

The Punjab & Maharashtra Co-operative Bank made a humble beginning in a small room at Sion, Mumbai on February 13, 1984 as a single branch cooperative bank. In a span of 35 years, it grew as a Multi-State Schedule Urban Co-operative Bank with its area of operations having a wide network of 137 branches across six states namely, Maharashtra, Delhi, Karnataka, Goa, Gujarat, Andhra Pradesh and Madhya Pradesh. The Bank was rated as among top 10 co-operative banks of the country. Operational management and organisation of co-operative banks in India are discussed in the Appendix.

Vision and Mission

The Bank claims to pursue following vision and mission:

“To emerge as a strong, vibrant, most preferred premier co-operative bank, committed to excellence in serving the customers, and augmenting the stakeholders’ value through concern, care and competence”.

Board & Key Persons

The list of key persons is as under:

Chairman	S. Waryam Singh
Vice-Chairman	S. Balbir Singh Kochhar
Managing Director	Joy Thomas
No. of Directors	<i>Twelve</i>
Statutory Auditors	M/s. Lakdawala & Co
Solicitors	M/s. Purnanand & Co.

Key Milestones

The Bank was conferred with Scheduled Status by the Reserve Bank of India in the year 2000. It became the Youngest Bank to achieve the ‘Scheduled Bank’ status.

The Multi-State Status was conferred on the Bank by the Central Registrar in the year 2004. The Bank thus entered into the national platform in the year 2004.

The Bank was given the Authorised Dealer Category I License by the Reserve Bank of India for forex business in the year 2011.

The bank got various laurels, awards and achievements during last decade including the following:

- All India Bank Depositors' Association, well known body of the bank depositors, felicitated the Bank in appreciation of "work ethics oriented to depositors' service" in 1999.
- The Bank was awarded with "Padmabhushan Vasantdada Patil Award" as the 'Best Urban Co-operative Bank' by the Maharashtra State Co-op Banks' Association Ltd. for nine times.
- The Bank received a "Special Jury Award" from NPCI for the lowest dispute ratio in the co-operative banking sector and also for the lowest unscheduled down time in 2012.
- It was awarded with 'Best Bank' award for the year 2018 in the category of Rs.2000 cr & above deposits by the Brihan Mumbai Nagari Sahakari Banks Association Ltd. for consecutively two times.

In addition, the Bank has claimed a number of firsts to its credit, and took pride in having a number of unique features such as:

- 360 days banking (Sunday and Holiday Banking).
- Token-less banking (tellers for any amount of cash withdrawal)
- Set up of self-service counters for customers
- Tele-banking services.
- Introduction of special products like "Double Decker" and "Bal Bhavishya Yojana."
- The Bank was the pioneer to mention names of payee/ drawer in the passbook/statement of accounts to facilitate easy identification of every entry/transaction. The Reserve Bank of India, in the year 2008-09, advised other banks to adopt this practice in the interest of better customer service.

- The Bank launched its Website and FaceBook page in the year 2011-12, and got visibility on the international platform.
- With 70% women employees, the Bank claims to believe in women empowerment. The Bank charges 1% lesser rate of interest for education loan to girls/women. It has a special saving account scheme for women. Women are given the benefit of additional rates offered to senior citizens w.e.f. 2018-2019.

Financial Performance of PMC

Gurudwara Samiti and Sikh institutions and shareholders are important depositors of the PMC, and this is the one bank for the deposits of the Sikh community.

Table no. 1 presents the financial performance highlights for the year ending March 31, 2019.

**Table 1: Financial Performance Highlights
(Rs. in Crores)**

Particulars	Mar 2019	Mar 2018
Business Mix	20,000	17,367
Deposits	11,617	9,939
Advances	8,383	7,429
Gross Profit	225	212
Profit after Tax	100	100
Owned Funds	977	912
Gross NPA %	3.76	1.99
Net NPA %	2.19	1.05
CRAR %	12.62	12.29

**Source: Annual Report 2018-19*

Annual reports suggest that net profit of the Bank for the financial year 2018-19 is Rs. 99.69 crore as against Rs. 100.90 crore for the previous financial year.

This marginal fall in net profit was stated due to an increase in provision towards NPA. Profits have been appropriated and utilized as under:

**Table 2: Appropriation of Profits
(Rs. in Lakhs)**

Particulars	2018-19	2017-18
Statutory Reserve Fund	2,492	2,522
Proposed Dividend	3,155	3,195
Building Reserve Fund	850	700
Dividend Equalization Fund	6	6
Investment Fluctuation Fund	15	10
Members Welfare Fund	50	50
Staff Welfare Fund	30	30
Staff Medical Fund	50	50
Charity Fund	99.69	100.90
Education Fund	99.69	100.90
Reserve Fund for Unforeseen Losses	996.95	1,009.05
General Reserve Fund	589.24	1,275.54
Technology Reserve Fund	50	50
Balance Transfer to Statutory Reserve Fund	.0012	.00165
Total	9969.45	10090.22

**Source: Annual Report 2018-19*

Reporting of Fraud

The PMC Bank crisis came to light after the RBI imposed restrictions on the bank citing multiple violations in operations. The bank had been flouting rules for almost six to seven years and now has an exposure of Rs 6,300 crore to one debt stricken firm HDIL which amounted to 73 per cent of the total assets of the PMC bank. Of the total deposits of Rs. 11,800 crores, a staggering amount of Rs. 6,300 crores were given as loan to one debt stricken firm Housing Development and Infrastructure Ltd (HDIL). This is a mammoth violation of regulations which forbid banks from handing out such a large proportion of cash to one sector, let alone a single firm.

The chairman of the bank Waryam Singh is the family friend of Wadhawan, promoters of the HDIL. Waryam Singh, the 67-year-old chairman of the bank, owns a company called Akal Finance, which has also borrowed Rs 400 crore from PMC. Waryam Singh joined the HDIL board as a director in 2005, quit to return to the bank as chairman in 2015, a position he had held between 1999 and 2005. Waryam Singh held 1.91% in HDIL till September 2017 after which he sold it. The borrower company HDIL filed for bankruptcy on August 21, 2019. The PMC gave the loans and advances to HDIL and group companies through hundreds of dummy borrower accounts, which were not traced in the Reserve Bank of India (RBI) audits (<https://www.dnaindia.com/business/report-pmc-bank>).

Housing Development and Infrastructure Ltd (HDIL)

The Wadhawan family's businesses span real estate, financial services and retail. As part of a 2009 restructuring, Sarang and his father Rakesh Wadhawan took complete charge of HDIL, while cousins Kapil and Dheeraj Wadhawan took over the management of Dewan Housing Finance Corp. Ltd (DHFL), as well as the family's other retail and hotel businesses. Rakesh Kumar Wadhawan and his son Sarang, are executive chairman and managing director of the company respectively. A management graduate from the University of Houston, Sarang joined the family business in 2000. Since then he had taken over the reins of the company.

HDIL, which was largely a slum developer, came out unscathed during the financial meltdown in 2008. Post the downturn, HDIL also started shifting its focus to mainstream residential and commercial development.

Once considered the third largest realty developer in India, HDIL continued to spiral down over the last few years. Over time, the mess became far deeper and much more

entangled within the family. For years, the Wadhawans, known for their love of flashy cars, had virtually treated PMC bank as a personal lender.

Though the company lost out on the ₹15,000-crore Dharavi redevelopment project in 2009 after the bankruptcy of its partner, Lehman Brother Holdings Inc., it secured one of its largest slum rehabilitation projects with Mumbai International Airport Pvt. Ltd (MIAL). But the ₹6,500 crore-MIAL project led to the downfall of the company. The project was to rehabilitate 80,000 families and, in turn, generate development rights of over 43.4 million sq. ft. However, it got stuck midway and too much debt was taken to fund it. The company, which got listed in 2007, also used up all the proceeds of the initial public offering to buy additional land parcels for the project.

Subsequently, changing regulatory norms and the prolonged slump in the residential housing market worsened the financial mess. Subsequently Bank of India dragged it to the National Company Law Tribunal (NCLT) and the HDIL is currently fighting for its survival in the bankruptcy court. The mess culminated with the latest knock being the arrest of its promoters in connection to the bank scam (Sapam, 2019).

Window Dressing of Financial Statements by PMC

The PMC annual report has been presented as a complete holy book with no indications of the frauds or flag-offs by the auditors. Nowhere there is mention of its advances to any real estate company in the annual report or auditors' report, rather mention has been made of the focus on the financing to the MSME sector.

The Annual Report states that as per the RBI's instructions, it has focussed on MSME landings on a priority basis. The report goes on to state that "...Bank's total Advances for the financial year 2018-19 is Rs. 8,383.33 crore, indicating a

net increase of 12.86 per cent i.e. Rs. 955.25 crore in the previous financial year 2017-18. The Bank has shifted its focus to priority sector advances - MSME advances to be in line with the regulatory requirements of Reserve Bank of India," (PMC Annual Report 2018-19).

"In the year 2018-19, the banking industry has witnessed an increase in stressed assets at an alarming rate, which continues to affect its financial position. The management of stressed assets is a major challenge before the entire banking industry in recent times. The low liquidity in the economy has put tremendous pressure on the cash flows of borrowers resulting in default in servicing of the debt, consequently stressed assets of the Bank have also increased to some extent. Concerted efforts were taken by the Bank's Monitoring Cell to curtail the NPA at all levels," (PMC Annual Report 2018-19).

"For speedy recovery, the several recovery tools are used by the Bank's recovery team. This effort has yielded desirable results. The Bank has made requisite provision as per the guidelines of Reserve Bank of India, pursuant to which, the Bank's percentage of Gross NPA to Gross Advances is 3.76 percent while Net NPA to Net Advances is 2.19 per cent for the year ending March 31, 2019." Though there have been some adverse comments about the top management of the bank, which raise questions about the credibility and trustworthiness of the Bank's Management Team.

The Aftermath

Suspended PMC Managing Director Joy Thomas's confession letter revealed that the top bank officials helped HDIL get loans and created many hidden accounts and secured it with passwords to protect them from being detected during audits conducted by the RBI officials. These accounts with fake credentials helped hide the number of loans borrowed by HDIL that later turned into NPAs (non-

performing assets) for the Bank leading to the exposure of thousands of crores (Singh, 2019).

"The conduct of the Bank is intentional and has led to omission and non-compliance which points out their direct role in helping the borrower. The PMC employees tampered with the software and that is why many accounts mentioned in the FIR did not reflect in the system. Several employees are being questioned by the SIT officials," according to a senior police officer privy to the investigation (Singh, 2019).

To quote, Lata Venkatesh (2019), "the eight Sikhs on the PMC Bank board have been banned by the community, and stripped of memberships of gurdwaras and institutes in Mumbai. Chairman Waryam Singh, Vice Chairman Balbir Singh Kochhar, Directors Surjit Singh Narang, Daljit Singh Bal, Surjit Singh Arora, Rajneet Singh, Gurnam Singh Hothi and Jasvinder Singh Banwait, as well as their families, have been stripped of their membership in gurdwaras and community-run trusts that operate 28 schools, four colleges and a hospital in Mumbai and Navi Mumbai. The eight have also been barred from attending community gatherings, like the 550th birth anniversary celebrations of Guru Nanak".

A favourable news for depositors could be that about 70 - 75 percent of the deposits may be recoverable, 44 percent by value are insured (Mervin, 2019), and another 30-35 percent can be recovered from SLR and CRR deposits, and its landed assets, though it may take years before the entire legal process of liquidation works itself out (Venkatesh, 2019).

When the news broke out, Sarang Wadhawan said that the Company would be able to tide over the financial burden given that the Company owned a huge land bank of around 222 million sq. ft. The company will offload land to repay the debts, he had said.

Though, HDIL promoters Rakesh Wadhawan, Sarang Wadhawan have been arrested; and assets worth Rs 3,500 crore have been attached; such a case should not represent a compromise between oversight financial inclusion by lending to those who might otherwise not get loans (Sankaranarayanan, 2019).

RBI has also initiated many steps to salvage the situation. It has appointed an administrator for the PMC Bank, has put restrictions on withdrawal, and the Institute of Chartered Accountants of India has been asked to investigate for the role of the auditors in the PMC case.

Discussion

No doubt, the bank regulator, RBI has initiated many steps, this just not should become an approach to 'bolt the barn door after the horse has escaped'. In case where an organisation does not pass the 'smell test', the approach cannot be that of correctness, the regulator should ask for higher standards of provisions. To quote, Govind Sankaranarayanan, "if during an inspection, a regulator believes that the management does not meet a high standard of transparency, delays providing responses, claims its systems are not in proper order, or other managers demonstrate incompetence, or the bank does not professionalise the board and management, RBI could ask for higher provisions, increased capital adequacy, and prevent the bank from reaching out to capital market". Thus, a multi-faceted approach is required to tackle the problem and install safety mechanisms to avoid recurrence of such frauds.

Conclusion

Credit co-operatives and credit banks have important roles despite commercial banks expansion with the advancement of technology. PMC Bank episode highlights three problems areas, namely— major financial irregularities, failure of internal control and systems, and under-reporting of exposures. The issue is to

look for strategic factors for these three and other problem areas and to come out with timely action, to come to the rescue of the interests of those adversely affected without waiting for any banks to fail.

Questions on the Case Study

Q1. Critically analyse the role of Management Team of PMC and the regulator RBI with relation to occurrence of fraud.

Q2. Critically analyse the role of Management Team of HDIL and their auditors with relation to occurrence of fraud.

Q3. What factors are mainly responsible for fraud at PMC? What measures can be taken by the regulator RBI to avoid recurrence of such frauds? How banks can improve self-regulation to avoid recurrence of such frauds?

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APPENDIX

Co-operative Banks: Norms and Administration

Co-operative Banks in India are registered under the Co-operative Societies Act 1912. They are licenced by the Reserve Bank of India to do banking business and are governed by the Banking Regulations Act 1949 and Banking Laws (Co-operative Societies) Act, 1965. Co-operative banks function on the basis of 'no-profit no-loss'. Co-operative banks, as a principle, do not pursue the goal of profit maximisation. Therefore, these banks do not focus on offering more than the basic banking services. Thus, co-operative banks finance small borrowers in industrial and trade sectors, besides professional and salary classes.

The criteria for getting a loan from a co-operative bank are less stringent than for a loan from a commercial bank. However, to get a loan, you have to be a member of the co-operative bank: own its shares worth at least 2.5 percent of the loan amount, or a maximum of Rs. 25,000. This amount may earn a return of 12-20 per cent (Sarang, 2008).

According to the RBI Report, there are 1,551 urban cooperative banks and 96,612 rural cooperative credit entities, and they account for 4 percent of the total deposits in the country (<http://www.cnbctv18.com>).

Depositors are shareholders and vice-versa. Almost always, the most prominent depositors, shareholders and borrowers are the same groups. Cooperatives belonging to one state are regulated by the registrar of cooperatives of the concerned state, while multi-state cooperatives are regulated by the central government (Venkatesh, 2019).

According to Usha Thorat, former RBI Deputy Governor, cooperative banks came directly under the RBI's radar in 1966 but faced the problem of dual regulation (Dhoot, 2019). The

Registrar of Cooperative Societies (RCS) controls their management elections and many administrative issues as well as auditing. And the RBI brought them under the Banking Regulation Act as applicable to cooperative societies, which included all the regulatory aspects, namely, the granting of the licence, maintaining cash reserve, statutory liquidity and capital adequacy ratios, and inspection of these banks. Thus, in a sense, urban cooperative banks have been under the radar of the RBI, but because of dual regulation, one always had a feeling that one did not have as much control over these banks in terms of supersession of boards or removal of directors, as the RBI has over private sector banks.

The rate of mortality of cooperatives is high and on an average about 16 default and die annually. Madhavpura Mercantile Cooperative Bank in Gujarat which had lent 90 percent of its deposits to broker Ketan Parekh and who could barely return anything after the market crash of 2001, is a similar case (Venkatesh (2019).

According to Latha Venkatesh, RBI literature shows that the central bank has always been worried about the potential for abuse in cooperative banks and the inadequacy of its own staff to supervise thousands of these tiny, far-flung entities. Savour this paragraph from the April 2000 monetary policy statement by Dr Bimal Jalan on the occasion of the Madhavpura disaster: "In the light of the recent experience, one of the options that deserve to be seriously considered is the setting up of a new apex supervisory body which can take over the entire inspection/ supervisory functions in relation to scheduled and non-scheduled urban cooperative banks (UCBs).

This apex body could be under the control of a separate high-level supervisory board consisting of representatives of the central government, state governments, RBI as well as experts and it may be given the responsibility of inspection and supervision of UCBs and ensuring their conformity with prudential,

capital adequacy and risk-management norms laid down by the Central Bank. RBI proposes to consult the central government on the above suggestion, and if found acceptable in principle, the proposal could be pursued further in consultation with State Governments and others concerned. RBI will be prepared to provide manpower and other assistance to the new apex supervisory body” (Venkatesh, 2019).

It would be appropriate to mention that under Y V Reddy, “the RBI signed MOUs with many state governments to appoint a committee comprising state government officials, RBI executives and members of the cooperative federation to frame tighter rules and even close down unviable ones. But the progress was tardy and the problem is forgotten as it continues to fall between stools: abused by state politicians, ignored by the central government and blindsided by RBI” (Venkatesh, 2019).

However, as mentioned by Usha Thorat, after the episode of Madhavpura Mercantile Cooperative Bank in Gujarat, RBI decided to squarely deal with the problems of cooperative banks. It issued a vision document in 2004-05 and stopped all licences of new branches and new bank entities. Under the vision document, a Memorandum of Agreement was entered into by the RBI with each of the States, where the State accepted an audit by professional auditors, and constituted a Task Force for urban cooperative banks (TAFUCB).

The TAFUCB was co-chaired by the RCS and the RBI Regional Director and was required to provide a bank-by-bank solution to those banks that were not maintaining minimum capital ratios. Not giving any new licences or new branches also pushed existing cooperative banks to come forth to take over the weak ones. This worked very well and a number of cooperative banks were delicensed, merged or liquidated. By 2017-18, as stated in the RBI Financial Stability Report, there were only four urban cooperative banks with capital adequacy

ratios below the regulated threshold (Dhoot, 2019).

Usha Thorat also referred to the recommendation of the H. Malegam Committee, to have a board of management of fit and proper persons, other than the board of directors, to have a board of management in actual control of operations as opposed to elected directors. It is because directors are elected by members and very often the borrowers get to nominate their own persons, while depositors are not really represented as these banks accept deposits from non-members.

Usha Thorat was of the view that this must be done immediately as an incentive for those who want to continue to grow; otherwise, there would be no more branch licences and restrictions would be imposed on the loan sanctioning. There must be a push for a fit and proper management, otherwise the elected directors can get away with fraud. Then all we can do is to cope with the aftermath of his or her actions.

Further, as majority of the cooperative banks have been doing a good job- meeting the needs of small businesses and even providing rural credit what is called as inclusive finance, and just about 50 or 60 of these 1,500 banks are large; so, the RBI’s supervisory resources have to be really focused on these larger banks mostly operating across the country like commercial banks (Dhoot, 2019).

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