

# Impact of Gender Diversity on Indian Firm's Financial Performance

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## Abstract

Gender diversity has tremendously gained attention in the corporate world both among policy makers and researchers. This is because it has been believed that gender diverse board brings different perspectives of idea to the board which enhances the firm financial performance. The purpose of this research is to examine the impact of gender diversity on Indian firm's financial performance. The research has been carried out on 21 female dominated companies (having more than 10% female director's) and 21 male dominated companies (having less than 10% female directors) listed on Bombay Stock Exchange (BSE) with total population of 220 companies spread across different industry segment from both public and private sectors. This research employed cross-sectional data for a period of 2017 and used stratified proportionate random sampling technique. The dependent variable firm financial performance adopted by the study used accounting base-return which is measure by Return on asset (ROA) and Return on equity (ROE). This study adopted an explanatory research design and secondary data was collected and analyzed through independent samples test and Group statistics using SPSS software. This research found that increasing number of female directors has a negative significant impact on ROA. Additionally, the study found increasing number of female directors has a positive significant impact on ROE. This research is limited in relying on cross-sectional data. It was recommended that future researchers should consider using longitudinal data and also investigate other variables that were not included in this study such as female CEO, women age, educational qualification of the female directors, Return on sales and net profit margin.

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## Introduction

The purpose of this research is to investigate the Impact of Gender Diversity on Firm Financial Performance on listed Indian companies spread across different industries from both private and public sectors that are registered in Bombay Stock Exchange (BSE) for a study period of 2017. Gender diversity is seen as exploiting viable unique attributes and abilities between male and female which could be of good advantage to the firm (Julizaerma & Sori, 2012). Diversity was one of the key factors that affect firm's long-term and short-term financial value (Fidanoski, et al., 2014; Carter, et al., 2003). Theories such as Agency, Human capital, Social psychology and Resource Dependency theories were developed and endeavored in promoting the idea of gender diversity in relations to firm's financial values (Sener & Karaye, 2014). Furthermore Cox and Blake (1991), who were the pioneers of gender diversity, suggests that gender diverse firms tend to gain the advantage such as reducing cost through lower rates of turnover and absenteeism compared to firm with less gender diverse board (Cox & Blake, 1991; Scott & Gruman, 2007).

All through history, incorporating into the latest century, women have been underrepresented in business and societal initiative globally. It was recorded that at the end of the twentieth century, women held less than three percent of the most senior administration positions in significant corporations in the United States and less than two percent of senior administration positions in Europe. In numerous nations, the proportion of female directors never exceeded one percent. In Italy, it was found that only 0.1% women were in top management (Fidansoki, et al., 2014; John, et al., 2014). Further, the presence of women on Indian corporate board is found 7% less than the overall average for developing countries (Arora & Kumar, 2016; India Bureau, 2016). The steady decline of women participation rate can be explained by India's gender bias patriarch traditions and customs (Sorsa, 2014; Raju, 2014). This tradition has led to gender inequality where women are seen inferior to men. Such inequity includes mortality inequality, employment inequality, household inequality etc. (Batra & Reio, 2016; Rathi, 2014; Jha & Nagar, 2015).

Women representation in firms is slowly but steadily increasing as many countries are initiating gender quotas to promote gender diversity (Kilic, & Kuzey,). As a result over the years, gender diversity has tremendously gained attention in the corporate world both among academicians, policy regulators and stakeholders with the significant increase in women involvement in strategic level (Carter et al, 2010; Tiwari & Dangwal, 2017; Agyapong & Appiah, 2015). The pressure for governance reform globally has encourage gender diversity in boardroom and the current overall female representation on board has increased from 14.5% in 2014 to 15.3% in 2015, and 16.9 % in 2016 (D'Hoop-Azar, et al., 2017). Also, women participation on board in India has increase significantly from 5.5% in 2010 to 11.2% in 2015 (Dubey, 2016). This could be likely explain by the recently

passed Companies Act, 2013 which mandate all listed companies and public companies to have at least one woman on their boards (Sanan, 2016; Bushra & Mishra, 2016; PWC, 2013). This is similar to countries such as Germany, Austria and Norway that have initiated legislation for gender diversity quotas in order to increase women participation on corporate boards (EU, 2012; Carter, et al., 2010; Kishore, 2016).

Presently, the impact of gender diversity on firm's financial performance is an unsolved issue and has been discussed in many empirical literatures. With vast studies conducted on gender diversity, the repeatedly asked question is whether gender diversity truly impact firm financial performance due to the mixed or inconsistent result provided by this researches. Research around the globe confirms the benefits of gender-balanced board. While some studies found a positive relationship of gender diversity (Carter, et al., 2007; Low, et al., 2015), others found no relationship (Agyapong & Appiah, 2015; Sanan, 2016) and even negative relationship with firm performance (Eulerich, et al., 2014; Kilic, 2015). Proponents of gender diversity suggest that a gender diverse board tends to benefit financially which enhances shareholders value (Fidanoski, et al., 2014; Carter, et al., 2010). However, Opponents of gender diversity argued that diverse board brings more opinion and critical evaluation, which makes the decision making process time consuming and ineffective (Solakoglu & Demir, 2013; Ujunwa, et al., 2012).

Regardless of the vast number of studies conducted about gender diversity globally, only few studies on India exist on this topic (Sanan, 2016, Sikand, 2013). Due to limited studies on Indian Firms, this study will contribute to the existing literature and body of knowledge on gender diversity and firm performance from an emerging economy with huge number of family owned companies and a culturally male dominated society. Also, only few researches have been carried out in different industries as previous research has been done with focus on individual sector such as Corporate sector, manufacturing sector, finance sector etc. hence findings from prior empirical research cannot represent the overall impact of gender diversity on firm financial performance and as such this research has been conducted on listed firms spread across different industries from private and public sectors.

The remainder of the paper is structured as follows; the second section literature review, which consist of theoretical foundation, past empirical studies and hypothesis development. This will be followed by research methodology in the third section. Conclusion, recommendation and limitation to the study will be in the subsequent section.

### *Research Objectives*

- To investigate the impact of increasing number of female directors on ROA.
- To investigate the impact of increasing number of female directors on ROE.

### *Research Questions*

- What is the impact of increasing number of female directors on ROA?

- What is the impact of increasing number of female directors on ROE?

## Literature Review

Gender diversity is a significant aspect of corporate governance; it refers to the presence of women as directors or women representation on corporate boards (Dutta & Bose, 2006; Wagana & Nzulwa, 2016; Fidanoski, et al., 2014). It is the level of heterogeneity in male and females that is portrayed in boardroom (Bekele, 2013). Gender diversity can be viewed as the recognition and promoting of different characteristics and skills of male and female as equal resources (Sumedrea, 2016; Ely, et al., 2003). Firm's financial performance is the overall financial stability and health of a firm over a given period of time (Bhunja, et al., 2011). Financial performance also refers to the extent to which firms can use assets from its primary mode of business and generate revenues (Ravinder & Anitha, 2013). Theoretically, the relationship between gender diversity and firm financial performance can be explained by agency, resource dependence, social psychological and human capital theory (Zahoor, 2016; Dang & Nguyen, 2016). Jensen and Meckling (1976) who developed agency theory, defined agency relationship as a contract where one or more parties (principals such as shareholders) determines and delegates the work while the other party (agent such as directors) does the work. Agency theory suggests that diversity enhances board independence because diversity in boardroom serves as a better platform to monitor and control managers. Also gender diversity encourages creativity on strategic direction, broadens the focus of firms, and increase communication with regards to issues ignored by the board which mitigate stagnant thinking (Carter, et al, 2007). Further gender diversity lowers agency cost which in turn boosts firm financial performance especially for firms with weak governance structure (Reguera-Alvarado, et al., 2017). Hence, the theory affirms that there should be a positive relationship between gender diversity and firm performance (Vafaei, et al., 2015; Taljaard, et al., 2015).

The resource dependency theory developed by Pfeffer and Salancik (1978) suggest external resources are very crucial on improving firm's performance and that firms depend on these resources in order to survive (Overveld, 2012). Resource dependence theory view gender diversity as one of the instruments that facilitates access to critical resources such as expertise, skill, and information which strengthens the firm's network with its external environment which should result to a better firm financial performance (Overveld, 2012; Fidanoski, et al., 2014; Ujunwa, et al., 2012). Also, this theory argues that having a gender diverse board will enable penetration of market more effectively which will ultimately result to higher firm financial performance (Reguera-Alvarado, et al., 2017; Vafaei, et al., 2015).

Social psychological theory introduced by Westphal and Milton (2000) predicts that individuals with majority status in the board have the ability to exert a disproportionate amount of influence in board decisions making compare to individuals with minority status on the same board (Carter, et al., 2010; Westphal & Milton, 2000). While the previous discussed theories argues in favor of gender diversity, social psychological theory prostate that having greater gender diversity may reduce the firm financial performance. This is so because gender-diverse directors might not necessarily influence

the board as a result of the internal group dynamics (Overveld, 2012). In addition, presence of female directors could lower social cohesion between groups and individuals, hence creating social barrier among board members and this could result to difficulty for the female directors to exhibit positive value to both the board and the overall firm financial performance as well (Mogbogu, 2016).

Terjesen *et al* (2009) who developed the human capital theory from the works of Becker (1964) define human capital as an individual value to the firm with respect to their education, wealth, work experiences, and skills level which are available and may be of good benefits to the firm. The theory predicts that due to the unique human attributes which is available, gender diversity will impact firm financial performance however the impact might be positive or negatively since it depends on the specific situation, and the approach employed by the firm to derive value from the human capital available (Mogbogu, 2016, Overveld, 2012; Taljaard, et al., 2012).

#### *Empirical Studies on the Impact of Gender Diversity on Firm Financial performance*

Agyapong and Appiah (2015) conducted a research titled “Effect of Gender Diversity on the Performance of Non-financial Listed Firms in Ghana”. The data employed by the researchers were drawn from fact books of Ghana stock exchange and Annual report database of Data bank from the period of 2007- 2011. The variable used includes Blau index, ROA, Tobin’s Q, Debt-to-equity, firm size, and board size. The result from the research showed no statistical relationship between gender diversity and firm financial performance. They suggest that the findings of the research could be as a result of the under representation on women on boards in Ghana. The major criticism for this research is that, the study focuses on just one proxy (Blau Index) to measure gender diversity. Proportion or percentage of female directors represented in the board could have been considered to get an accurate finding as seen in study conducted by (Campbell & Minguez-Vera, 2008). However, this research adopted time-series from 2005-2007 which is very consistent for this topic in order to be able to forecast the future trends. Also, the research considered both market based measure Tobins Q and Accounting based measure, Return on asset to measure firm performance. Similarly, Kilic (2015) did a research on The Effect of Board Diversity on the Performance of on Turkish banking industry. The sample size consists of 26 banks from 2008-2012. The variables used include percentage of women, foreign directors on the board, Blau index, ROA and ROE. The finding from the study shows a negative relationship between board diversity and financial performance. The sample size consider for this study was small and hence does not represent the total population of 130 banks. A larger sample of at least 50 banks could have been considered to get conclusive evidence on the topic.

Fidanoski, Simeonovski and Mateska (2014) did a research, “The impact of board diversity on corporate performance: new evidence from southeast Europe”. The sample size employed was 35 firms Macedonia, Croatia, Serbia, Bosnia and Herzegovina, and Greece extracted from annual reports available on official websites of the firms and stock exchange of the analyzed countries for a period of 5 years from 2008-2012. The variables include ROA, Tobin’s Q, Blau indices (Women on board ratio, foreigners on board ratio

and educational ratio). The finding from their research shows proportion of women on board has a positive and significant association with firm performance as measure with Tobin's Q. Similar findings was obtained in the study conducted by Garba, & Abubakar (2014) on insurance companies in Nigeria. The study used a sample size of twelve insurance companies listed on Nigerian stock exchange using non-probability sampling over a period of six years. Using ROA, ROE and Tobin's Q to measure firm performance, the study found gender diversity has a positive impact on insurance companies' performance.

Sanan (2016) conducted a research to investigate "Board Gender Diversity, Financial and Social Performance of Indian Firms". The sample size for the study consist of 54 companies drawn from Economic Times (ET) ranking spread over widely different industry segments. The variables used were Blau index, ROCE and KLD index. The research did not find a significant association between gender diversity of boards and firm's financial and social performance. The findings could be as result of relying on cross-sectional data and hence recommends an assessment with longitudinal panel data over a longer time period. The sample size for this research is small and hence does not provide a clearer view of gender diversity. The study uses cross-sectional data which contributed to the unclear view of gender diversity in India. Also, using variables such as percentage or total number of women in the board could have been a better way to measure gender diversity. Further, financial performance measures such as ROA, ROS, and ROE should have also been considered using rather than relying on just ROCE. Similarly, Solakoglu and Demir (2016), conducted a research on the "The role of firm characteristics on the relationship between gender diversity and firm performance in Istanbul Turkey. The study used the largest listed firms on Borsa Istanbul from 2002-2006. The study found weak evidence that gender diversity impacts firm performance. However this finding was clearly justified by the researchers. They suggest that the sample size used for the study had few firms with more than one woman on board hence their impact on firm performance was not visible.

### *Conceptual Framework*

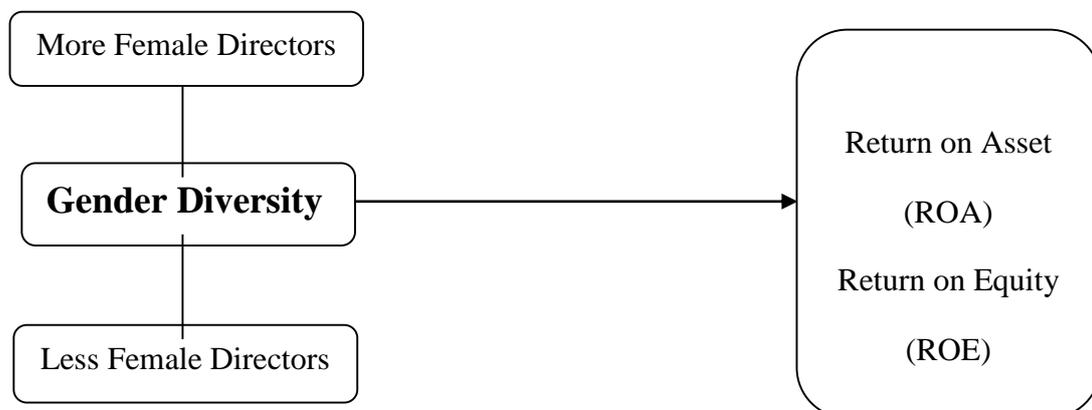


Figure1. Conceptual Framework- Gender diversity and Firm Financial Performance

Gender diversity can be measured using the increasing number of female directors (Luckerath-Rovers, 2013; Devi, et al., 2015). Researches affirm that having greater

number of female directors on board may increase the reputation of the firm because in boardroom, women are seen to be more cooperative, polite and they are always more attentive to whatever is being discussed which gives them room to solve problems the board may be faced with (Hassan, et al., 2015; Konrad, et al., 2008). Also, women ability to influence the board decisions increases with their numbers, particularly boards with more than one or three female directors on board (Terjesen, et al., 2009; Fondas & Sasselos, 2000). Thus increasing the number of female directors will lead to better future prospects and better working environment (Cox & Blake, 1991; Shafique, et al., 2014; Agyapong & Appiah, 2015).

Prior research on gender diversity found higher Number of female directors on board is positively associated with ROA indicating that the higher the number of women on board, the higher the performance (Shafique, et al., 2014; Devi, et al., 2015). This is supported by catalyst and Mckinsey report that found that firms with higher representation of female directors on board recorded higher ROE compare to those with small number of female directors (Catalyst, 2013; McKinsey, 2007). Similarly, some studies found a positive relationship between percentage of female directors and financial performance as measured with ROA and ROE (Luckerath-Rovers, 2013; Low, et al., 2015; Tu, et al., 2015; Dang & Nguyen 2016). In contrast there is another stream of researches that found negative relationship between number of female directors and firm financial performance (Kilic, 2015; Abdullah & Ismail, 2013; Mirza, et al., 2012; Salim, 2011). It was suggested that the negative impact could be caused by different attitude behavior leading to misunderstanding in the boardroom. Also, the negative impact recorded by some empirical research could clearly mean that increasing more female directors in the board does not lead to better firm performance because their appointment could be as a result of tokenism or lack of critical mass (Abdullah & Ismail, 2013; Konrad, et al., 2008). Some empirical studies also found no significant impact of gender diversity on Financial performance suggesting that higher or lower number of female directors on board won't yield any significant impact performance as women are seen to be minority on board (Rose, et al., 2013; Vob, 2015). It was argued that these research that found negative or no significant impact of number of female directors on firm financial performance might be affected by an overall low or high female representation on board which invalidate their findings (Reguera-Alvarado, et al., 2017; Joecks, et al., 2013). Further, having more number of female directors is of more significant impact to firm performance than having one female director on board (Pasaribu, 2015).

**H<sub>1</sub>:** *Increasing Number of Female directors has a significant impact on ROA*

**H<sub>2</sub>:** *Increasing Number of Female directors has a significant impact on ROE*

## **Research Design and Methodology**

In this research, explanatory research design was engaged in order to achieve the research objectives. Explanatory research is defined as research that examines the theories and explains the purpose of the study by identifying the causal relationship or connection between variables. It is characterized by hypotheses which specify the nature and direction of the relation between variables being studied (Saunders, et al., 2009; Devi, et

al., 2015). Quantitative research methods were used in this study because it incorporates the norms of positivism and it is based on deductive reasoning (Souza, et al., 2007). It determines the relationship between variables (independent and dependent variables) within a population and it is concerned with finding evidence to support or contradict the hypothesis or idea already in place (Grant, et al., 2013; Golafshani, 2003). This research was conducted using secondary data. As it is an era of internet, where the internet serves as a platform to collect related information such as published annual report, collecting secondary data is much easier since it saves time (Devi, et al., 2015; Ghauri & Gronhaug, 2005). Also, the study employed Cross-sectional data for a period of 2017.

The total population for this study is 220 companies spread across different industry segment listed on Bombay stock exchange (BSE) as seen in the table below. Stratified proportionate random sampling was used in this research. This sampling technique was adopted to ensure that companies from different industries were selected equally and fairly and the sample gives better representation of the population (Rajamanickam, 2001). Also it reduces chances of sampling error which might affect the result at later stage (Lloyd, 2004). Using this sampling technique the population is divided into strata (i.e. industries) and sample companies is selected from each industry giving it to a total sample of 100 companies as seen below (Table 1). This sample size was selected because statisticians believe using larger sample size accurately represent the characteristics of the population from which they are derived from and large sample size decreases estimation error and increases power (Wilson, et al., 2007). The sample size was selected using this formula:  $\text{Sampling Number} = (\text{number of companies (industry)} / \text{total Population}) \times 100$ .

Table 1 Total population and sample size

#	Industry/Sector	No. Companies	Sample
1	Consumer Goods	20	9
2	IT/Consulting services	22	10
3	Oil & Gas	10	5
4	Automotive	14	6
5	Banking/Financial services	25	11
6	Telecom/Mass Media/entertainment	15	7
7	Pharmaceuticals/healthcare	21	10
8	Construction and Real estate	9	4
9	Logistics and transport	7	3
10	Electricity utility/electrical equipment/ electronics	20	9
11	Mining/steel/iron	11	5
12	Building materials	7	3
13	Chemicals/petro/agro	10	5
14	Textiles/shoes/accessories	5	2
15	Hospitality	6	3
16	Beverage/breweries	5	2
17	Others	13	6
	<b>Total</b>	<b>220</b>	<b>100</b>

However the data set was filtered to remove some problematic companies as they were outliers which affected the results and further, the sample companies was divided into two set; 21 companies with less than 10% female directors (Male dominated companies) and 21 companies with more than 10% female directors (Female dominated companies) which brings to the total of 42 sample companies.

The independent variables are male and female which have been measure using male dominated companies (i.e. companies with less than 10% female directors) and female dominated companies (i.e. companies with more than 10% female directors). This measure was chosen because India corporate board is neither made up of male or female completely as the company Act requires than each company has at least one female director. Hence, this parameter was chosen to measure gender diversity because companies with more than 10% had higher number of female directors and thus considered to be female dominated companies while companies with less than 10% has less number of female director sand hence can be categorize to be male dominate company.

To measure the impact of independent variables on dependent variables, two accounting-based measures which represent firm financial performance was employed; Return on asset (ROA) and return on equity (ROE). The selection of the variables was based on prior studies that employed such variables when examining gender diversity relationship with firm performance (Tu, et al., 2015; Hassan et al., 2015; Moscu, 2013). ROA measures and predicts company efficiency on using its asset to generate earnings (Heikal, et al., 2014) and Return on equity (ROE) measures firm profitability by revealing profit generated with shareholders money (Kijewska, 2016; Khatab, et al., 2011).

This study employed independent sample t-test using SPSS software. SPSS software was chosen for this study because it deals with cross-sectional data. Also, SPSS software is the most widely adopted software in academic researches because of its versatile nature in terms of conducting different methods of data analysis, data transformation and forms of output (Arkkelin, 2014). Several statistical analysis methods such as descriptive, correlation and regression analysis were considered however independent t-test was considered for this study. Independent sample t-test is a statistical technique used to compare the population mean differences where two samples in the observation can be paired and compare with, such as pre-test and post-test on the same subjects (Xu, et al., 2017; Bui, 2009). The primary objective of independent t-test analysis is to determine whether the mean values between paired observation on a particular outcome are significantly different from zero (Bower, 2010). This research adopted independent t-test in order to compare whether increase or decrease in number of female director have significant impact on firm's financial performance. The Six main assumptions of independent sample t-test (Laerd Statistics, 2018) which the research has addressed include:

- The dependent variable should be normally distributed. This requirement has been met by conducting normality test.

- The Independent variable should consist of two categorical independent groups. This research has met this requirement as the study has been conducted on two groups (male and female dominated companies).
- The dependent variable should be measured on a continuous scale.
- The dependent variables should not contain any outliers. This was duly addressed as the outliers were removed.
- There should be homogeneity of variance. This was also addressed by conducting Levine test of equality of variance using SPSS.
- The data set are independent of each other.

### Data Analysis and Findings

The data set was analyzed through independent t-test statistics method to gauge whether the independent variable Gender diversity significantly impact the dependent variables (ROA and ROE). However, having used SPSS software to analyze the data, the results was not significant due to the presence of outliers in the data set. The data set was filtered to remove the outliers which are one of the fundamental assumptions of t-test analysis that the dependent variable shouldn't contain outliers; as outliers could lead to bias result and incorrect conclusions if not handled properly. The assumption of homogeneity of variance has also been addressed by the research through Levene's Test of Equality of Variances. As seen in table 4, the p-value is above 0.05 with **0.458** for ROA and **0.868** for ROE. This shows that the group variance can be treated as equal and the dependent variables are not homogenous.

#### Normality test

Table 2 Normality result

Tests of Normality							
	Gender	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
ROA	Female Dominated	.138	21	.200*	.941	21	.230
	Male Dominated	.127	21	.200*	.944	21	.260
ROE	Female Dominated	.162	21	.155	.946	21	.284
	Male Dominated	.148	21	.200*	.933	21	.158

Source: SPSS generated

The normality test was conducted to satisfy the assumptions of t-test as stated in chapter three. From the table, the result from Shapiro Wilk- test of normality shows that the significant value is more than 0.05 for ROA and ROE. For data set to be considered normal, the p-value have to be greater than 0.05 (Ghasemi & Zahediasl 2012). Hence the data set used for this research is normally distributed.

*Group Statistics*

Table 3 Group Statistics result

Group Statistics					
		Mean	N	Std. Deviation	Std. Error mean
ROA	Female Dominated	11.7262	21	4.89922	1.06910
	Male Dominated	8.6533	21	4.52457	.98734
ROE	Female Dominated	7.1548	21	3.95189	.86237
	Male Dominated	14.4567	21	3.90778	.85275

*Source: SPSS generated*

*Return on Asset (ROA)*

As shown in table 3, the average mean of ROA for female dominated companies is 11.7262 with standard deviation of 4.89922. The average mean of ROA for male dominated companies was 8.6533 with a standard deviation of 4.52457. This simply implies that female dominated companies had recorded a higher return on asset compare to male dominated companies. Campbell & Minguez-Vera (2008) and Solakoglu & Demir (2016) found a significant positive relationship between firm financial performance as measured with ROA. They further suggested that increased gender diversity in boardroom can be attained without destroying shareholders value. This research findings are consistent with several researches which have affirmed that adding good proportion of women on board might bring benefit such as creativity and innovation which in one way or the other will better it performance (Fidanoski, et al., 2014; Shafique, et al., 2014; Dang & Nguyen, 2016; Kilic & Kuzey 2016).

*Return on Equity (ROE)*

The results in table 3 show that the average mean of ROE for male dominated companies was 14.4567 with a standard deviation of 3.90778. The average mean of ROE for female dominated companies was 7.1548 with standard deviation 3.95189. The result indicates the mean of male dominated companies actually recorded a higher ROE compare to female dominated companies. Kang (2013) found that female directors had no significant impact on ROE which could be as a result of women given a token role in boardroom rather than engaging in major roles in order to influence the performance of the board and hence the firm. Similarly, Moscu (2013) found that percentage of women in boardroom does not have a significant impact on firm performance as measure with ROE which could like be linked to the low representation of women in the board. Thus only having a greater number of female directors could show the significant relation with the firm's performance.

*Independent Samples Test*

Table 4 Independent samples test result

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	SE. Diff.	95% Confidence Interval of the Difference	
									Lower	Upper
ROA	Equal variances assumed	.560	.458	-2.112	40	.041	-3.072	1.45	-6.014	-.131
	Equal variances not assumed			-2.112	39.749	.041	-3.072	1.45	-6.014	-.131
ROE	Equal variances assumed	.028	.868	6.021	40	.000	7.301	1.212	4.850	9.753
	Equal variances not assumed			6.021	39.995	.000	7.301	1.21	4.850	9.753

Source: SPSS generated

It can be seen from the table above, that the average mean difference between ROA of female dominated companies and ROA of male dominated companies is **-3.07286** and the p-value is **0.041**. The results indicate that male dominated companies recorded higher ROA compare female dominated companies. The findings is in accordance with the human capital theory that suggest that even though female directors may bring different skills and expertise to the boardroom it may not necessarily influence firm performance hence, it may have negative or positive performance (Overveld, 2012). This evidence is consistent with Ujunwa *et al* (2012), Kilic (2015), Dutta & Bose, (2006) and Abdullah & Ismail (2013) that recorded a negative significant impact of gender diversity on ROA; suggesting that firms with higher number of female directors tends to perform poorly. Also, Adams and Ferreira (2009) found similar negative impact of gender diversity on firm performance; indicating that presence of female directors in the board could lead to over monitoring and hence reduce the quality of the boards working practices. This might be as a result that number of women in boardroom is very low especially in India (Zahoor, 2016). This makes women on board to be minority and hence their performance is marginalized (Westphal & Milton, 2000; Zahoor, 2016).

**H<sub>1</sub>:** Increasing Number of Female directors has a significant impact on ROA, is accepted

Table 4 shows the average mean between ROE of female dominated companies and ROE of male dominated companies is **7.30190** and p-value is **0.000**. The result indicates that female dominated companies recorded a higher ROE. Also, there is a significant impact of gender diversity on ROE. Hence gender diversity has a positive significant impact on firm financial performance as measure with ROE. It has always been believe that firms with higher number of female directors also recorded high ROE which is consistent with the resource dependence theory that emphasized on the competitive advantage firms then to attain with inclusion of more women (Zahoor, 2016; Hunt, et al., 2015; Campbell & Minguez-Vera, 2008). Also, female directors enhance board effectiveness which influences the firm financial performance positively (Terjesen, et al., 2009; Buchwald & Hottenrott, 2014). This is because women possess the ability and qualities to include board decisions especially for firms with more than one female director (Terjesen, et al., 2009). Similarly, it was suggested that if the firm increases the proportion of women directors involved in the Board it will have a positive impact on ROE which affirms that women could actually better firm financial performance (Julizaerma & Sori, 2012). Also, prior studies done by Garba & Abubakar (2014), Vafaei *et al* (2015), Tu *et al* (2015) Luckerath-Rovers (2013) and Low *et al* (2015) found the similar results.

**H<sub>2</sub>:** Increasing Number of Female directors has a significant impact on ROE, is accepted

## Conclusion

Having analyzed the data from independent sample t-test analysis, this research found that companies with less female directors recorded higher return on asset. Prior empirical studies also proved that gender diversity with it relation to firm performance is a two way thing; suggesting that higher number of female directors negatively impact firm's financial performance. The possible reason of negative impact on ROA could be lack of critical mass of female directors especially in India where the representation of female directors is low. Hence a minimum of three female directors is needed in order to have a positive impact on firm's value. Therefore increasing women on board or exceeds a certain limit (in this case more than 10%) will decrease the overall financial performance of the company in terms of return on asset.

The research also found increasing the proportion of female directors has a negative impact on return on equity. Empirical literatures have been able to establish the link between higher numbers of female on ROE. This is because firm's performance is highly influence by the board of directors and it has been evident that women directors exhibit very high professional experiences as compared to male directors. This enhances decision making process in the boardroom by bringing in creativity and innovation and hence the outcome always has a direct positive impact on return of equity. Therefore increasing women on board or exceeding a certain limit (in this case more than 10%) will increase the overall financial performance of the company in terms of return on Equity.

## Recommendations

The research recommends that future researches should consider using longitudinal data for gender diversity in order to get a clearer view of gender diversity on firm financial performance. Comparative study between countries should be also considered by researchers to get a clearer view on how gender diversity impact firms financial performance in each context. Furthermore, independent variable such as expertise skills of female directors, educational qualification female directors and women age should be investigated as these variables are likely to be responsible for the level of involvement of women in the board which impacts the firm performance. Also future research should broaden their framework when measuring firm's financial performance by considering Return on Sales (ROS), Net Profit Margin (NPM) or Gross Profit Margin (GPM).

The research also recommends that Human resource managers in firms should always consider the certain limit of recruiting female directors to have a gender diverse workforce in order to achieve the sole objective of the firm which is maximization of shareholders wealth. As seen from this research, firms with more than 10% female recorded higher financial performance which means having more or too less female directors might not yield a better result, rather a certain number of female directors should be determined by managers to ensure higher performance.

Further, government should encourage and promote the idea of gender diversity by implementing policies that sets the minimum number the board of directors should have. However, while considering implementing those policies, the government should also consider the certain amount of female directors firms should have. Especially in the Indian context which is a culturally male dominated society, having more or too less female directors would not have an impact on financial performance. The findings from this research have demonstrated that firms with more than 10% female directors recorded higher ROE.

## Limitations

This study also relies on cross-sectional data due to the lower representation on women in previous years hence this research cannot estimate the trend and forecast the future of gender diversity on Indian firms. Also, insufficient time to complete the research properly was another limitation for this study. Further this research investigates how the presence and non-presence of female directors impact firm's financial performance without considering the expertise skills of these female directors. The lack of due consideration these factors may actually have a great impact on the roles played by these female director in the boardroom.

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