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Relationship between Gender Diversity in Top Management Teams and Profitability of Pakistani Firms

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Abstract
This research examines the relationship between gender diversity in top management teams on the profitability of Pakistani firms. Data is collected from the highest market capitalized manufacturing firms over the time period of five years from 2010-2014. Statistical analysis revealed that there is a two way relationship between gender diversity and firm profitability. Findings of this research suggest that females tend to work on the highly profitable firms and bring a tremendous increase in the profitability of that firm in return. Results also revealed that the high percentage of males in top management teams is negatively related to the firm profitability.
Keywords: gender diversity, top management, management teams, firm profitability, female top managers, male top managers

1. Introduction

Gender diversity has always been the topic of great interest all over the world. But in recent studies gender is being considered as one of the aspect which can influence firm performance (Shafique, Idrees, & Yousuf, 2014). Although Number of women working at middle level management is quite significant but it is quite low at top level (Oakley, 2000; Agars, 2004). This phenomenon is not only evident in developing countries but also in some developed countries.

Recently in Grant Thornton International Business Report, it is reported that females constitute 35% of the global workforce and 24% of the global senior management. Among which proportion of female CEOs is 14%, chief financial officers is 31%, human resource directors is 30%, corporate controller is 14%, chief marketing officers and sales directors is 13% and females on board is 19%. China is found to have the highest percentage of females in top management around 51% whereas Japan is at the lowest end with only 7%. It was also reported that top five economies of the world have highest ratio of female CEOs (Thornton, 2013).

Women generally have been a neglected population segment in Pakistani firms specifically at top level. Irrespective of the high claims of gender equality from the government of Pakistan. Pakistani studies show that we are still in the phase of liberating women to work on executive positions as several firms were identified with no female CEO (Yasser, 2012). More researches are required to prove the positive impact of gender diversity on firm performance. So the glass ceiling for women to work at top management could be removed and they can perform their role in increasing firm performance. Purpose of this paper is also same; to identify the relationship between gender diversity in top management teams and firm profitability.

2. Literature Review

The existing literature on this topic revealed that women managers enhances firm performance. Moreover, higher percentage of female managers at executive and administrative level is positively related to firm performance (Cordeiro & Stites-Doe, 1997). Despite of this positive relationship between top level female managers and firm performance, the number of females working at top level is quite low (Oakley, 2000). One of the reasons is their unequal representation at the top level (Agars, 2004). Which makes them minority and hence their impact in firm performance is marginalized (Westphal & Milton, 2000). This unequal representation is due to those corporate policies and practices which serves as glass ceiling in the career development of females (Oakley, 2000). But the recent studies conducted on role of females in firm performance contributed towards elimination of this glass ceiling by supporting the presence of female top managers. These studies are based on Danish firms (Smith et al., 2006, 2008), US firms (Dezsö & Ross, 2012; Khan & Vieito, 2013) and Turkish firms (Izgi & Akkaş, 2012).

Smith, Smith and Verner (2006) found that the relationship between firm performance and fraction of female top managers is sensitive to the measures adopted to evaluate firm performance. They found more positive and significant results for gross profit margin as compared to other measures. Izgi & Akkaş (2012) also found highly positive and significant relationship between gross profit margin and female CEO. They reported that having a female CEO increased firm profitability by 5 percent. But this positive impact is related to highly qualified female CEOs whereas less qualified CEOs does not influence firm performance (Smith et al., 2006). Shrader, Blackburn & Iles (1997) suggested that "It appears in general that large firms with high percentages of women managers also have high ROS, ROI and ROE. This clearly coincides with the resource-based theory of competitive advantage" (p. 365).

But not all the studies suggest the higher proportion of female top managers (Darmadi, 2010; Yasser, 2012; Shafique et al., 2014). The inclusion of female top managers will increase the diversity in firm and this diversity could lead to the greater variation in team members' perceptions of decision making difficulty. Whereas decision making difficulty could result in the lower firm profitability (Kilduff, Angelmar, & Mehra, 2000). In fact a negative correlation was reported between firm performance and presence of female top managers in some countries like Pakistan (Shafique et al., 2014), Germany (Laible, 2013) and Indonesia (Darmadi, 2010). In Germany, the turnover and value addition of the firm are negatively related to the female top managers and this negative relation is evident for small, medium and large firms (Laible, 2013). In Pakistan, no significant relationship is found between female top managers and economic value addition of the firm (Yasser, 2012).

Parrotta & Smith (2013) found that there is no variability in firm's profit in presence of the female CEO. Instead, females' presence could lead to strict corporate governance because they focus more on monitoring activities. But agency theory suggests that this strict corporate governance can lead to better firm performance (Carter et al. 2007; Florackis & Ozkan, 2008) in long run (Parrotta & Smith, 2013). So, the impact of females is different based on their roles in organizations (Petrova, Ghosh, & Xiao, 2013). On average, the CEO's gender matters in terms of firm performance. Because the firm risk level is smaller in presence of a female CEO as compared to the male CEO (Khan & Vieito, 2013).

But the relationship between females in top management and firm performance is not that simple as it seems. Some researchers suggest that the direction of causality might be converse which implies that high performing firm will attract more females (Al-Shammari & Al-Saidi, 2014) and this could be the reason of females' inclination towards better performing firms (Farrell & Hersch, 2005). Others suggest there could be reverse causality (Adams & Ferreira, 2009). To check all these diverse phenomenon between gender diverse top management teams and firm profit a theoretical framework is developed.

3. Theoretical Framework

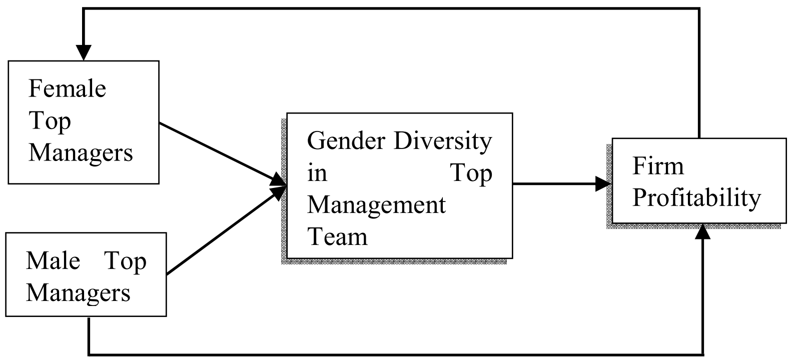

Figure 1. Theoretical Framework

Figure 1 represents the theoretical framework which is developed on the basis of the previous literature and theoretical findings. It is a two way model. Firstly it analyzes the relationship between gender diversity and firm's profitability secondly it observes that inclination of the females to serve in the top management teams of the highly profitable firms.

3.1 Research Hypotheses

The theoretical framework presented above is tested through following hypotheses.
H1: Gender diversity in top management teams is positively related to the firm's profitability.
H2: Higher percentage of male top managers is negatively related to firm performance.
H3: Highly profitable firms have higher percentage of females in their top management teams.

4. Methodology

4.1 Sample

The purpose of this research is to analyze the relationship between gender diversity in top management teams and Pakistani firms with highest market capitalization. For this purpose manufacturing firms are selected because firm's profitability is being measured in terms of the gross profit margin and in service industry it's not possible to calculate the gross profit margin for certain type of firms. Sample is extracted from the Karachi Stock Exchange which is largest stock exchange of Pakistan. More than 200 manufacturing companies are listed on the Karachi stock exchange (www.kse.com.pk). Our sample is comprised of the 50 manufacturing firms with the highest market capitalization over the time period of five years from 2010-2014. Data is collected from the secondary sources including; companies' official websites, their annual reports and analysis reports issued by Karachi Stock Exchange.

4.2 Variables

4.2.1 Gender Diversity

Gender diversity is measured with Blau index to test H1. Balu index is used to measure the level of diversity among same type of individuals (Blau, 1977). It has been used previously by many researchers (Campbell &Vera, 2008; Joecks, Pull & Vetter, 2013) to measure the gender diversity.

$$\text{Gender Diversity} = 1 - \sum p_i^2$$

Where p is the proportion of gender diversity. It is 0 when there is no female in top management team and approaches 1 when there are females in top management team.

4.2.2 Male and Female Top Managers

Percentage of male top managers is used to test H2. Whereas percentage of female top managers is used to test H3.

4.2.3 Firm Profitability

Firm profitability is measured by gross profit margin. It is an important measure specifically during inflation because if company will not increase its prices during increase in sales' cost the gross profit will deteriorate (Gittman, 2013). It is calculated as;

$$\text{Gross Profit Margin} = \text{Gross Profit}/\text{Sales}$$

It has been utilized in the previous literature by Izgi & Akkaş (2012) and Smith et al. (2008, 2006) to examine the relationship between females in top management and firm performance.

5. Data Analysis

STATA 13 is utilized for statistical analysis of the data. Pooled ordinary least square estimation is used to analyze the relationship between gender diversity in top management teams and firms profitability. Separate pooled OLS is estimated for all three hypotheses. As each hypotheses is tested separately and includes only one independent and one dependent variable so correlation analysis is not conducted.

Table 1 describes the average profitability of the firms with and without gender diversity over the time period of 2010-2014. Table 1 clearly show that average profitability of the firms with gender diversity is much higher as compared to the firms without gender diversity in each year.

Table 1. Comparison of Firm Profitability with and Without Gender Diversity

	Firm Profitability				
Years	2010	2011	2012	2013	2014
Firms with gender diversity	30.26	37.51	28.00	27.33	24.63
Firms without gender diversity	19.54	20.51	21.89	24.27	22.58

Table 2 demonstrates the descriptive statistics of the data. There are 250 observations for each variable. Values of firm profitability shows that data includes wide spectrum of firm ranging from highly profitable to highly unprofitable. There are firms having no female top managers and firms having equal distribution of male and female top managers.

Table 2. Descriptive Statistics

Variables	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Companies	250	25.5	14.45343	1	50
Years	250	3	1.417051	1	5
Firm Profitability	250	22.24824	15.31278	-3.9	70.93
Female Top Managers	250	2.8	11.51915	0	50
Male Top managers	250	97.2	11.51915	50	100
Gender Diversity	250	.056	.230383	0	1

6. Results and Discussion

6.1 Gender Diversity and Firm's Profitability

In H1 we checked the impact of gender diversity on firm profitability. We hypothesized that gender diversity in top management teams is positively related to firm profitability. Table 3 demonstrates the impact of gender diversity on firm performance. Results show that gender diversity has highly significant and positive impact on firm profitability at $p<0.01$. It is found that for every 1% increase in gender diversity in the top management teams, the firm profitability will increase by 83.2%. So H1 is verified.

Table 3. Impact of Gender Diversity on Firm's Profitability

VARIABLES	Coefficients	Robust Standard Error
Gender Diversity	8.326***	2.585
Constant	21.78***	1.010
Observations	250	
R-squared	0.016	

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

6.2 Male Top Managers and Firm's Profitability

We developed another hypothesis to check the impact of male top managers on firm profitability. Table 4 shows that male top managers are negatively related to firm profitability and this negative impact is highly significant at $p<0.01$. Results show that for every 1 percent increase in male top managers the firm profitability will decrease by 16.7%. Hence H2 is justified that higher percentage of male top managers is negatively related to firm profitability. But this negative impact is much less as compared to the positive impact of the gender diversity in top management teams (see Table 3).

Table 4. Impact of Percentage of Male Top Managers on Firm's Profitability

VARIABLES	Coefficients	Robust Standard Error
Male Top Managers	-0.167***	0.0517
Constant	38.43***	4.866
Observations	250	
R-squared	0.016	

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

6.3 Firm's Profitability and Females in Top management Teams

We developed H3 to check conversation in the relationship of female top managers and firm profitability. Impact of firm profitability is observed on the percentage of females in top management teams. Results of Table 5 shows that firm profitability has a significantly positive impact on the presence of females on top management teams at $p<0.05$. It is observed that for every 5% increase in firm profitability the percentage of females in their top management teams increases by 9.42%. So H3 is justified and it is proved that there is also conversation in the relationship of female top managers and firm profitability. But the positive impact which is generated in return by presence of female top managers on the profitability of firm is much higher (see Table 3).

Table 5. Impact of Firm Profitability on Percentage of Female Top Managers

VARIABLES	Coefficients	Robust Standard Error
Firm's Profitability	0.0942**	0.0391
Constant	0.704	0.690
Observations	250	
R-squared	0.016	

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

7. Conclusion

In this research we examine the relationship between gender diversity in top management teams and firm profitability in manufacturing sector of Pakistan. We find that firms with gender diverse top management teams are much more profitable as compared to the firms without gender diversity. Higher the gender diversity higher will be the firm profitability. Whereas higher percentage of male top managers will lower the firm profitability. Relationship between female top managers and firm profitability is found to be two way. We find that highly profitable firms have higher percentage of females in their top management teams. So it is concluded that females tend to serve on highly profitable firms and increases the firm profitability considerably.

8. Limitations and Recommendations

There are certain limitations of this research. Firstly it is only limited to the manufacturing sector of Pakistan. Secondly it is based on the highest market capitalized firms and does not include small firms. It is recommended that researches should be conducted on the services firms and also on the small scale firms. Comparative study between the services industry and manufacturing industry on the relationship of gender diversity and firm profitability can provide further insight. Furthermore, impact of gender diversity on other aspects of the firm value and performance should also be analyzed.

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