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**CAN WOMEN CHANGE A FIRM'S FATE? A STUDY ON THE FIRM  
PERFORMANCE BASED ON GENDER DIVERSITY IN FOOD SECTOR  
OF PAKISTAN**

**Tehreem Fatima<sup>1</sup>, Muhammad Ibrahim\*, Abid Hussain Nadeem\*, Nayyira Zeb\*, Abdul  
Qayyum\*, Engr. Shahid Aslam\***

**<sup>1</sup>Institute of Business Management, Karachi.**

**\*Department of Management Sciences, Khwaja Fareed University of Engineering and  
Information Technology, Rahim Yar Khan, Pakistan.**

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**ABSTRACT**

Under the area of corporate administration, the Board of chiefs is viewed as a fundamental segment in essential dynamic that at last influences the company's benefit and in general execution. The fragment of women is observed low in the top management all around the world. This examination expects to distinguish the effect of gender orientation variety on the firm execution only in the food area of Pakistan. Panel Data was collected from thirteen food and beverage companies of Pakistan for the time period of 2012 to 2020. The analysis was carried out by using pooled OLS model estimation using Eviews9 with 117 observations. The variables undertaken for the study were tested and it was uncovered that the presence of ladies on the board is adversely identified with firm execution giving proof that the presence of female board individuals doesn't really hoist the presentation of the firm. Also, the presence of male fragments is insignificantly related to firm execution. It implies that a gender-diverse board will not always impact the firm performance with the corporate structures prevailing in the developing economy, Pakistan. The results of the research are not convincing but they can be used as a reference for

future studies. However, the literature used in the study can be taken forward as it is a meaningful addition in relation to the role of women in the corporate boards.

## INTRODUCTION

According to the Pakistan Economic Survey (2017-2020) women consist of nearly 49 percent of the total country's population in Pakistan. With respect to the ratio of women, the issues of women have become the talk of the town. Therefore, the reports from the survey highlight Vision 2025 that includes two major subjects: Gender Equality and Women Development as a huge part and furthermore remember it to be a vital supporter of the financial fate of Pakistan. As per the reports from Pakistan Economic Survey (2017-2020), women perform a vital role in the development of Pakistan. It also states that the women's development indicators are gradually improving but they remain insufficient in achieving gender equality that remains incompatible in the area of enrollment in schools, share in the labor market, and the decision-making arena. Knowing this issue, the government of Pakistan is making strong efforts to provide a competitive environment and equal opportunities to the suppressed gender of the society in order to avail opportunities that offer them economic growth, social prosperity and development. Taking into account this, sincere efforts are being made bringing about the support of ladies' work by fixing 10% amount for women in open area business. Though Punjab raised the standard to 15 percent and in the area of Sindh, work share for ladies in the police has been expanded from 2% to 5 percent (Pakistan Economic Survey 2019-2020).

Common ground in most of the societies is the reservation of primary power affiliated with the males that make women suppressed and inferior that results in male dominating civilization, especially in the emerging economies. In such societies, women are considered less rational, high on emotions and lacking the power of decision-making that prevents them from being offered reputable positions in the corporate world. Therefore, the fragmentis observed low in the top management all around the world as it is a general mindset that women do not have a strategic mind that will not allow their survival for the long term in the corporate world (Mirza, Mahmood, Andleeb, & Ramzan, 2012). This human capital as explained (Markarian & Parbonetti, 2007) can be utilized in the strategic path that firms opts-in dealing with complicated situations and allow for strategic decision making (Dunn, 2011; Singh, Terjesen, & Vinnicombe, 2008). The experiences of women in the professional spirit are unlike the experiences of the males especially in the executive positions (Nielsen & Huse, 2010) and female directors were found with advanced degrees along with the faster pace of availing better job opportunities by job switches as compared with males (Hillman, Cannella, & Paetzold, 2000). For instance, an investigation (Singh et al., 2008) sorted out that British female chiefs were found to have regularly a level of MBA with worldwide working experience. Nonetheless, creating economies was actually restricting and it was seen that females were not invited to partake in the dynamic interaction.

Under the space of corporate administration, the Board of chiefs is viewed as a fundamental component that is not only answerable to shareholders but also considered an active contributor in strategic decision making that ultimately affects the firm's profitability and overall performance (Shafique, Idress, & Yousaf, 2014). In the corporate environment of Pakistan, the governance mechanism differs from that of developed nations. The constructs related to the

board members may vary and involve a number of attributes like board size, board ethnic background, age, gender, education level, board composition level, independent directors, executives, and non-executives etc. These attributes are an important contributor to the success of an organization and its market performance. Previous researches have been carried out identifying the impact of variables related to the board members on different areas of the firm financials. The importance of these attributes remains highlighted due to the responsibilities and authorities attached to the designation for leading the pathways to the strategic goals and aims of the firm and their effective implementation (Shafique et al., 2014). In lieu of this, the evolution of women's representation in various areas of the corporate sector has derived the way to carry out this research within a specified sector in the developing country, Pakistan.

This analysis tends to identify the trend of gender diversity and its impact on the firm performance exclusively in the food sector of Pakistan. Also, the food sector is one of the largest growing sectors in Pakistan as evident from its improved performance in the year 2017-2018 accounting for 2.78% growth as reported by the Pakistan Bureau of Statistics<sup>i\*</sup>. Therefore, the point of this investigation is to distinguish the effect of gender orientation variety dependent on ladies' show among directorate on the presentation of recorded food organizations in Pakistan. The aftereffects of the examination will profit the associations in understanding the board organization comprehensively.

## **LITERATURE REVIEW**

There have been conflicting reviews on the presence of women on board and company execution. A few investigations found a positive connection between the female portrayal ready and firm execution while others convey a negative link. Though, some studies also provided evidences of no link between the two. However, these differences may appear due to various reasons like: studies were conducted in different corporate structures with many other variables, methodological differences, the background of the board members, ethnic differences, differences in the timeline, data analysis techniques etc (Campbell & Mínguez-Vera, 2008). Gender diversity is defined by many researchers differently. A gender orientation different board is characterized as the one having no less than one female chief (Adams and Ferreira, 2009), as it is the simplest method to show portrayal, furnished the number of firms with women director accessible. Another definition of gender diversity suggests that the presence of women in the board room is considered as gender diversity without any compulsion of numeric composition (Dutta & Bose, 2007). However, there is an extension of the first-order research question: For an economic influence to happen, how diversified a board has to be? This is referred to as "the critical mass" (Broome, Conley, & Krawiec), implying that a boardroom having a sizeable number of women in a board comprises women who are similar to other board members implying that the "critical mass" of ladies doesn't make them "outcasts". Introductory examination suggests that the minimum amount for ladies directors in a meeting room is at least three (Torchia, Calabrò, & Huse, 2011) corporate boards. Since 2005, according to a study conducted in Norway, the female share of directors has been set; hence the considerable variation in board structure data is present to favor this measure.

## **GENDER DIVERSITY**

Diversity of board has engaged researchers from numerous domains. Diversity is associated with other facets within the firm by intellectuals. Besides numerous research on the correlation of

business performance and board composition in corporate governance and finance literature, such as (Chapple & Humphrey, 2014; Pletzer, Nikolova, Kedzior, & Voelpel, 2015), there is an increment in the quantity of exploration analyzing the connection between monetary execution and board variety. Association of organization performance and gender diversity still remains difficult to find. As (Adams and Ferreira, 2009) declare "The writing on variety likewise have vague expectations for the impact of variety on execution". Few developed countries have carried out researches in their literature so as to distinguish the connection between firm execution and board variety, like the US (Carter, Simkins, and Simpson, 2003), Canada (Francoeur, Labelle, and Sinclair-Desgagné, 2008), Spain (Campbell and Mínguez-Vera, 2008), the Netherlands (Marinova, Plantenga, and Remery, 2010), and Scandinavian countries (Randøy, Thomsen, and Oxelheim, 2006). However, this concern is still uncommon in developing countries. Among very few studies are (Ararat, Aksu, & Tansel Cetin, 2010) and (Hassan, Marimuthu, & Johl, 2015), which use the data of Malaysia and Turkey, respectively.

A positive association was found, by (Bonn, Yoshikawa, & Phan, 2004), between market-to-book value and diversity in the sample taken from top companies in 1999. Variety was associated with a higher Tobin's Q (Nguyen and Faff, 2007) in a model of firms with various directorates in 2000-2001. By using ROA, ROE and shareholder return as performance indicators for the top 500 listed firms, (Wang & Clift, 2009) stated that there was no empirical evidence found in the connection between the percentage of women in boardrooms and returns with diversity data for one year only (2003). It is observed that there are very few firms with women directors on the holding seat as all these studies were conducted before the ASX's diversity disclosure requirement. (Adams, Gray, & Nowland, 2011) investigated the data of appointment of the directors and found that stock markets respond more positively on the assignment of women directors than on men directors. Different opinions are established on the connection between a company's competitive gains and gender diversity. Some beliefs assist the theory that greater diversity can bring great value to the business for several reasons. Women are believed to possess a "feeling" thinking style that emphasizes consonance (Hurst, Rush, & White, 1989) and the ability to spread information (Earley & Mosakowski, 2000). They are also assumed "tough" as they have to come across different encounters before taking charge of the responsibility which brings them immense respect in the society (Krishnan & Park, 2005). Added to this, it is also argued that innovation and creativity could also increase due to gender diversity (Campbell & Mínguez-Vera, 2008).

On the contrary, one of the arguments also proposes that increased gender diversity can put a firm in an unfavorable position. Larger gender diversity can extend the possibility of disagreement (Joshi, Liao, & Jackson, 2006). According to corporate governance and finance studies, a number of studies have discussed the link between financial performance and gender diversity. Tobin's q as the proportion of market-based performance, (Carter et al., 2003) makes it apparent that those US firms will in general show a superior exhibition, which has a higher number of ladies in their top managerial staff. A bookkeeping-based boundary i.e ROA additionally affirms the presence of a good implication (Krishnan and Park, 2005). A greater proportion of women officers, according to some samples of a Canadian firm, results in positive and considerable unusual return (Francoeur et al., 2008). The sign of positive link between gender diversity and monetary execution gets from Spain (Campbell and Mínguez-Vera, 2008) and

Denmark (Smith, Smith, and Verner, 2006). Utilizing an example of Turkish recorded firms (Ararat et al., 2010), presents affirmation of such positive associations in rising markets.

On the contrary, numerous researchers have evaluated this question but have found inconsistent results. (Carter, D'Souza, Simkins, & Simpson, 2010) was unable to find a substantial association between company performance (Tobin's Q and ROA) and diversity in boards, by means of a sample of U.S firms between the period 1998-2002 from the S&P 500 index. Then again, (Carter et al., 2003), tracked down a positive relationship between different boards and firms' execution (Tobin's Q). (Adams and Ferreira, 2009) discovered some sign of a negative relationship between firm execution and gender orientation variety both as a proportion of ROA and market-to-book esteem. The investigates using Australian information are incredibly impacted by the example size. (Bøhren & Strøm, 2007) and show that the financial performance is negatively impacted by a bigger extent of ladies on the top managerial staff. Utilizing an example of the US common asset industry, (Bär, Niessen-Ruenzi, and Ruenzi, 2009), shows a negative relationship of sex variety between return in asset and supervisory crew. A few researchers, for example, (Randøy et al., 2006), (Rose, 2007), and (Marinova et al., 2010), have wound up with an end where they didn't track down any likely connection between monetary execution and sexual orientation variety.

**H<sub>1</sub>.** There is a significant association between female directors and a company's performance.

**H<sub>2</sub>.** There is a significant association between male directors and a company's performance.

## **BOARD SIZE**

Board size comprises the total members on board in the organization. Some researchers consider larger boards to be beneficial for the firm whereas others suggest having smaller boards (Tulung & Ramdani, 2018). In another study, in the manufacturing concern in India, it was found that having larger boards helps in enhancing firm performance as the decision-making process belongs to the complex phenomenon that requires intellectual understanding (Arora & Sharma, 2016). A firm with a larger board size was identified to have a positive impact on the overall performance as it helps in extended monitoring of the firm (Coles, Daniel, & Naveen, 2008). A corporate board development was studied over 10 years and results indicated the positive influence of the board size and board independence on the firm's performance over a period of time (Boone, Field, Karpoff, & Raheja, 2007).

**H<sub>3</sub>.** There is a significant connection between board size and the company's performance.

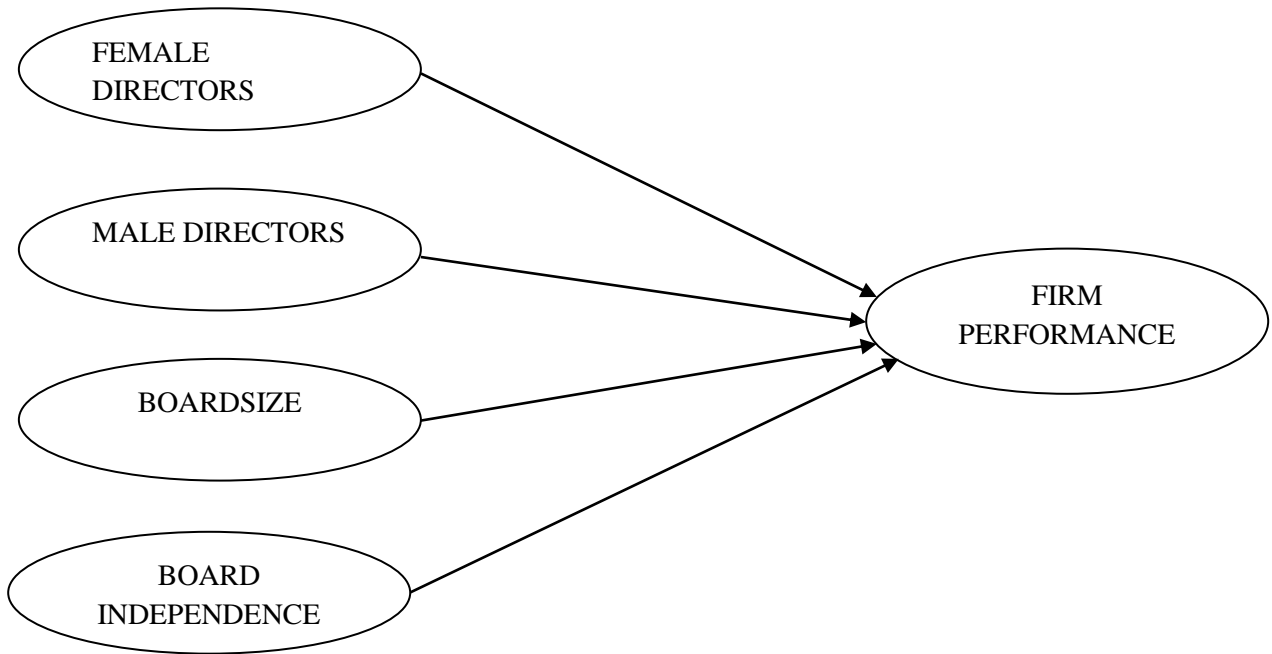
## **BOARD INDEPENDENCE**

There have been conflicting views onboard independence and firm performance. Several studies were conducted and varied results were found. The difference in the results was mainly due to the varied governance mechanisms around the world. The independence of board was found to have no empirical relationship with firm performance in US-based studies whereas studies in the Chinese environment showed contrasting results (Liu, Miletkov, Wei, & Yang, 2015). According to a study conducted in an Indian environment, it was found that firm performance had no link with the independence of the board as independent directors failed to fulfill their monitoring roles (Fuzy, Halim, & Julizaerma, 2016). In the economy of Bangladesh, no influence of board independence was found on the firm's performance (Rashid, 2018). In another study, data from banks was gathered in Indonesia, South Korea, Malaysia, and Thailand. The results from

Quantile regression showed a significant positive association between board independence and firm performance(Tulung & Ramdani, 2018).

**H4.**There is a significant connection between board independence and the company's performance.

### CONCEPTUAL FRAMEWORK



**Fig 1:** conceptual frame work

We developed a financial model to test the hypothesis for firm performance.

$$(i) \quad ROA_{it} = \beta_0 + \beta_1 FD_{1it} + \beta_2 MD_{2it} + \beta_3 BS_{3it} + \beta_4 BI_{4it} + u_{it}$$

Where;

$ROA_{it}$  represents the firm performance of food companies  $i$  at time  $t$

$FD_{1it}$  represents female directors on board in the food and beverage sector  $i$  at time  $t$

$MD_{2it}$  represents male directors on board in the food and beverage sector  $i$  at time  $t$

$BS_{3it}$  represents board size in the food companies undertaken for study  $i$  at time  $t$

$BI_{4it}$  represents board independence in the food and beverage companies  $i$  at time  $t$

$u_{it}$  represents the error term

$i = 1$  to  $13$

$t = 2012$  to  $2020$

### METHODOLOGY

The study has been completed by implementation of the quantitative research method employing the analysis making use of secondary sources. Based on the aim of the study that was conducted

with the objective of examining the association of gender diversity and firm performance, the population was the total companies listed on PSX (Pakistan Stock Exchange) in Pakistan. The sample of the food sector was drawn from the total sectors available for study. Food and beverage companies included a total of 14 companies under the head of the sector on the official website of KSE therefore; the relevant financial data from the firm's annual reports were taken out for the analysis. The complete data was available for 13 food companies therefore the sample finalized for the study was set for 13 food and beverage companies based on a 6-year analysis for the period 2012-2020. The list of companies is stated as under:

**Table 1: list of companies**

S. No	Company Name	S. No	Company Name
1	Nestle' Pakistan Ltd.	8	Ismail Industries Ltd.
2	Unilever Pakistan Foods Ltd	9	Quice Food Industries Ltd
3	National Foods Ltd.	10	Clover Pakistan
4	Mitchell's Fruit Farms Ltd.	11	Engro Foods Limited
5	Punjab Oil Mills Ltd	12	Goodluck Industries Ltd
6	Shezan International Ltd	13	Murree Brewery Company Ltd.
7	Fauji Food Industries Ltd		

The **independent variables** used for this study are as under:

1. Board Size – This identifies with the complete number of chiefs, number of leaders, non-leader and autonomous chiefs. It is estimated by the complete individuals on the board and it is firmly identified with gender variety
2. Female Directors – This refers to the total number of women on board out of the total composition of the board and is mainly related to the subject of the research
3. Maledirectors– This parameter refers to the number of male directors employed on the board out of the total board composition. This shows a component of the board is also linked with gender diversity.
4. Board independence – board independence is an essential part of firm performance that retains the shareholder's interest as autonomous directors are endowed by the investors or shareholders and address them.

The **dependent variable** used for the purpose of analyzing an organization's performance, namely ROA is employed in order to analyze the accounting performance of the listed food and beverage companies. ROA is taken as total compensation isolated by the book worth of all-out resources as obvious from the study (Erhardt, Werbel, and Shrader, 2003) and utilized as a typical proportion of firm execution in a large portion of the studies (Adams and Ferreira, 2009; Carter et al., 2010; Wang and Clift, 2009). Information on ROA was gathered from the yearly reports of food and refreshment organizations recorded on the KSE. Where ROA alludes to Return on Assets

## RESULTS

The statistical technique used for the analysis is the ordinary least square regression with the help of the commonly used statistical software Eviews 9. Regression analysis represented the descriptive results below in Table 1.

**Table 2: Descriptive stats**

	MEAN	STDDEV	SKEWNESS	KURTOSIS
ROA	0.090708	0.119615	1.285093	6.498576
BSIZE	8.230769	1.328245	1.109983	3.790007
FDIR	0.122179	0.132935	0.867784	3.05326
MDIR	0.879231	0.132897	-0.90054	3.094529
BIND	0.123846	0.017672	-0.83821	2.613389

The foremost analysis in order to confirm the normality of data is descriptive statistics. The tests are performed by making use of the contemporary software Eviews9. Table 1 depicts the results of descriptive statistics containing values of mean, median standard deviation, skewness and kurtosis. **Skewness** and kurtosis are added as proposed by (Mardia, 1970) which proceeds the extent to which a variable is normally distributed. However, in case of the values from the data incline towards the left or right tail then the distribution is considered skewed. **Kurtosis** deals with the values of the variable pointed into a particular area. The results in Table 1 shows that MDIR (male directors) has the lowest skewness (SK= -0.9, Mean=3.09) while the highest value with ROA (SK=1.2, Mean=0.09). Whereas, the lowest value for kurtosis lie with BIND (K=2.61, Mean=0.09) and the highest with ROA (K=6.49, Mean=0.12).

**Table 3: Correlation analysis**

	ROA	BSIZE	FDIR	MDIR	INDEPENDENT
ROA	1				
BSIZE	-0.00449	1			
FDIR	0.082794	0.261899	1		
MDIR	-0.08383	-0.26384	-0.99965	1	
INDEPENDENT	-0.0487	-0.98443	-0.27892	0.282747	1

From the above table, it can be seen that return on assets (ROA) is positively correlated with Female directors on board and negatively correlated with Board size, Male directors on board and board independence which implies that an increase in Female directors will increase ROA. Whereas the case differs for board size, male directors and board independence which means that ROA will decrease with an increment in male directors, board size and board independence. Board size is positively correlated with female chiefs and adversely connected with male chiefs and board freedom. Female directors are negatively correlated with male directors and board independence. Male directors are positively correlated with board independence.



**Table 4: Regression Analysis**

OLS pooled regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.27537	3.872301	-0.07111	0.9435
BSIZE	-0.17118	0.062285	-2.74832	0.0075
FDIR	3.414862	4.181239	0.816711	0.4168
MDIR	3.376993	4.191008	0.805771	0.423
INDEPENDENT	-13.0111	4.746999	-2.74092	0.0077
R-squared	0.101845			
F-statistic	2.069438			
Prob(F-statistic)	0.093544			

Ordinary Least Square (OLS) Regression was conducted to examine the relationship between gender diversity and firm performance. The results were not convincing and it was deduced that model was not a good fit for the situation as the probability of f statistic had a value greater than 0.05 along with the R-square value to be relatively low. Therefore, as an alternative approach Random and Fixed effect model was employed. Additionally, the Hausman test was used to compare the results of fixed and random effects and the results of random effects indicated unsatisfactory results. Hence, we relied on the fixed-effects model.

**Table 5: Fixed and Random-effects model**

Random effects

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.571761	3.84075	0.148867	0.8821
BSIZE	-0.03968	0.056203	-0.70602	0.4824
FDIR	0.417977	4.204636	0.099409	0.9211
MDIR	0.356955	4.194535	0.0851	0.9324
INDEPENDENT	-4.19368	4.407374	-0.95151	0.3445
R-squared	0.044458			
F-statistic	0.849106			
Prob(F-statistic)	0.498735			

**Table 6: Hausman test**

Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		4.582035	4	0.3329

**Table 7: Fixed effects**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	0.709758	4.20047	0.168971	0.8664
BSIZE	-0.01375	0.059547	-0.23091	0.8182
FDIR	-0.11218	4.628066	-0.02424	0.9807
MDIR	-0.20851	4.599859	-0.04533	0.964
INDEPENDENT	-2.49379	4.712703	-0.52916	0.5986
R-squared	0.672519			
F-statistic	7.82941			
Prob(F-statistic)	0			

The Hausman test suggested cross-section random shows a probability of 0.3329 which is a reliable source of results interpretation containing the probability of F-statistics to be less than 0.05 and improved value of R-square. The results indicate a negative and insignificant impact on all variables. However, the results of the pooled regression indicated a negative but significant impact on board size and board independence.

## DISCUSSION

The study has been completed by investigating the relationship of gender diversity on the firm performance of the listed food and beverage companies of KSE. The observed variables were tested and it was identified that the presence of ladies on the board is contrarily identified with firm execution giving proof that the presence of female board individuals doesn't really hoist the exhibition of the firm. Therefore, we reject our first hypothesis H1 which suggests that female directors are not significantly related to ROA measured as a proxy for firm performance. This implies that a higher number of female executives is not responsible for the improved firm performance. Additionally, it can also be quoted as per results that male directors are also not related to the accounting performance of the firm. It also compels us to reject our second hypothesis H2 which suggests that a male director is not significantly associated with ROA. Therefore, we can say that board composition based on gender diversity does not necessarily contribute to the firm performance. The results are consistent with the studies (Adams & Ferreira, 2009; Carter et al., 2003; Randøy et al., 2006; Rose, 2007). The board size of the food and beverage companies also showed an insignificant and negative impact. The results are contradictory with most of the previous studies (Boone et al., 2007; Coles et al., 2008; Tulung & Ramdani, 2018). The larger board size may not necessarily benefit companies in the context of Pakistan as per the results of our study. Therefore, we reject our third hypothesis H3 and suggest that board size does not always affect the firm performance. Moreover, our last hypothesis board independence seems to suggest a negative and insignificant impact on the firm performance of food and beverage companies in Pakistan. Therefore, we reject our final hypothesis H4 which implies that independent board members in high proportion lead to having a negative influence on the firm's Return on Assets.

## CONCLUSION

The present article examines the impact of women positioned on the corporate board and its impact on the firm performance taking into view a single sector of KSE across the listed sectors in Pakistan. We have used financial data of the food and beverage firms analyzing the impact for the 6 years 2012-2017. The panel data was used as 13 food and beverage companies were taken

understudy out of a total of 14 companies. The food and beverage sectors varied in terms of board structure as it includes heterogeneity and diversification. There were companies with no women on board and companies with women dominance. However, the impact is seen on the basis of regression rather than on comparison due to time constraints and the limited scope of the study. Though, comparative analysis can be conducted in future studies in order to have strong and powerful insight to dig the deeper meaning of associations of variables with firm performance. The study employed regression analysis and the results suggest that gender diversity seems to have no impact in the context of food and beverage companies. Also, a high fraction of females on board tends to have no influence on the low or high-performing firms under the study with the selected variables. Results may seem to differ with other variables. All hypotheses were rejected as no significance was observed among independent variables and dependent variables. Empirical evidence asserts that the presence of women negatively and insignificantly impacts the firm performance taken as ROA.

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<sup>i</sup> \* <https://dailytimes.com.pk/286581/cpec-spurs-pakistans-industrial-growth-up-by-5-4-in-fy18/>