

CHAPTER 4 DATA ANALYSIS, OBSERVATIONS & INTERPRETATION

The research study includes analysis of 55 sample listed companies for the financial year 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23. A detailed list of the sample organizations has been attached as Annexure -II.

The data received from 55 sample companies was analysed using descriptive statistics, Cronbach's Alpha test for reliability, exploratory factor analysis test and chi square test. A pilot test was conducted on 13 samples to check the validity and reliability of the instrument. Statistical software SPSS was used to conduct various statistical tests at 0.05 level of significance. The financial performance data of the companies i.e. ROA, ROE and ROCE are in percentage.

Descriptive Statistics

Descriptive statistics like frequency distribution, measures of central tendency (mean, median and mode) and measures of dispersion (Standard deviation, variance) were used.

Normality Test

Normality test using Shapiro -Wilk Test and histogram was used to check whether the data is normally distributed or not. Since the data was not normally distributed non-parametric test have been used for analysis of the data. Non-parametric tests like Mann-Whitney U test, Wilcoxon Signed Rank test, Chi-square test of independence, Fisher's Test, Spearman's Rank Correlation and Friedman Test was applied to ascertain statistical significance.

Demographic Profile of Respondent Companies

The demographic characteristics of the respondent companies has been presented in tabular form using descriptive statistics.

Table 10 reflects demographic characteristics about the respondent companies, participated in this study. Characteristics like sector-ownership, type of industry, stock exchange in which the companies are listed, age of the organization, gender of the chairperson of the company and gender of the respondents have been considered in the questionnaire.

Table 10*Demographic Characteristics of Respondent Companies (n=55)*

Respondent Companies Profile	Frequency (n)	Percent (%)
Based on Sector Ownership		
Private	49	89
PSU	6	11
Total	55	100
Type of Industry		
Manufacturing	42	76
Service	13	24
Total	55	100
Based on Stock exchange		
Only BSE	15	27
Only NSE	2	4
Both NSE & BSE	38	69
Total	55	100
Age of Organization		
Less than 25 years	9	16
25-50 years	25	46
More than 50 years	21	38
Total	55	100
Gender of respondent		
Female	21	38
Male	34	62
Total	55	100
Gender of Chairperson of Company's board		
Female	2	4
Male	53	96
Total	55	100

1) Based on Sector/ Ownership of Respondent Companies

Study consists of total 55 companies (n=55) listed in stock exchanges. Out of 55 companies 11% companies (n=6) were public sector units and 89% companies (n=49) are privately owned companies.

2) Based on Type of Industry

Out of total respondents 24% companies (n=13) belonged to service industry and 76% companies (n=42) were from manufacturing industry.

3) Based on Stock Exchange

In this study, 27% companies (n=15) were listed only on Bombay Stock Exchange (BSE), 4% companies (n=4) were listed only on National Stock Exchange (NSE) and 69% companies (n=38) were listed on both NSE & BSE.

4) Based on Age of Organization

Out of total respondents 16% (n=9) sample companies were in existence since less than 25 years, 46% (n=25) sample companies were having existence of 25-50 years, while 38% (n=21) companies have been in existence for more than 50 years. This shows that almost 84% respondent companies were having existence of 25 years or more than 25 years.

5) Based on Gender of Respondents

The primary data was collected from company secretaries of the listed companies. Out of 55 respondents 62% (n=34) company secretaries were male, while 38% (n=21) company secretaries were female.

6) Based on Gender of the Chairperson of the Board

Though the number of women directors has increased after the mandatory requirement by Companies Act 2013, still when it comes to Chairperson of the Board, female representation is very less. Only 4% (n=2) companies had female as Chairperson on the company board, while majority 96% (n=53) companies were led by male Chairperson.

After analysing demographic characteristics of respondent companies, the main analysis related to the topic of the study was carried out, which is as follows.

Number of Women directors in the Listed companies

Table 11

Frequency Distribution of Number of Women directors across the Respondent Companies from 2018-19 To 2022-23

No. of Women directors	2018-19		2019-20		2020-21		2021-22		2022-23	
	N	%	n	%	N	%	n	%	n	%
1.00	37	67.3	37	67.3	37	67.3	32	58.2	29	52.7
2.00	14	25.5	11	20.0	14	25.5	19	34.5	21	38.2
3.00	3	5.5	7	12.7	3	5.5	3	5.5	2	3.6
4.00	1	1.8	0.0	0.0	1	1.8	1	1.8	3	5.5
Total	55	100.0	55	100.0	55	100.0	55	100.0	55	100.0

Table 11 represents the year wise percentage of women directors in the 55 respondent companies. In the Financial Year 2018-19, 2019-20 and 2020-21, 67.3% (37) companies had only one-woman director. In the year 2021-22 the percentage of companies with only one-woman director reduced to 58.2% (n=32) and further reduced in the FY 2022-23 to 52.7% (n=29). Companies with two women directors was 25.5% (n=14) in FY 2018-19, which reduced to 20% (n=11) in the FY 2019-20, further increased to 25.5%(n=14) in FY 2020-21, increased to 34.5%(n=19) in the FY 2021-22 and further increased to 38.2% (n=21) in FY 2022-23. Companies with three women directors was 5.5% (n=3) in FY 2018-19, which increased to 12.7% (n=7) in FY 2019-20, reduced again to 5.5% in 2020-21 and 2021-22 each. However, in 2022-23 it decreased to 3.6% (n=2). Companies with four women directors have been negligible with 1.8%(n=1) in 2018-19, 0% in the year 2019-20, 1.8%(n=1) and increased slightly to 5.5% (n=3) in the FY 2022-23.

The data suggests that still more than half of the companies have only one-woman director. There is a steady, although slow, shift towards having more women on the board. Companies with two-women directors show a gradual increase from 14 (25.5%) in 2018-19 and 2020-21 to 19 (34.5%) in 2021-22, to 38.2% in 2022-23. The percentage of companies with three or more-women directors have been less in all the financial years. This shows that companies are still reluctant to appoint beyond the mandatory requirement of Companies Act 2013 and SEBI's

listing agreement. Companies are not putting extra efforts to include more women directors on boards.

Table 12 represents the descriptive Statistics about number of women directors across respondent companies from FY 2018-19 to FY 2022-23.

Table 12

Descriptive Statistics About Number of Women directors in Respondent Companies from Financial Year 2018-19 to 2022-23

Women directors	2018-19	2019-20	2020-21	2021-22	2022-23
Mean	1.42	1.45	1.42	1.51	1.69
Std. Error of Mean	0.09	0.10	0.09	0.09	0.12
Std. Deviation	0.69	0.72	0.69	0.69	0.86
Skewness	1.74	1.27	1.74	1.37	1.02
Mode	1.00	1.00	1.00	1.00	1.00

Over the five-year period from 2019-2023, the number of women directors in companies has gradually increased, with the (mean) $\bar{x}$ rising from 1.42 in 2018-19 to 1.69 in 2022-23. The standard deviation measures the spread of the data around the mean.

SD remained fairly consistent around 0.69 to 0.72 over the first four years, indicating that the number of women directors is not highly variable within each year. However, SD increased to 0.86 in 2022-23 suggests greater variability in the number of women directors among companies that year. Mode for all the years is 1 indicating that most of the companies have only one-woman director on board, the minimum threshold as per Companies Act 2013.

Men vs Women directors on Boards Across 55 Listed Companies

The table 13 presents the descriptive statistics of man and women directors on boards of sample companies (55).

There were 6.56 average men directors compared to 1.42 women directors. Minimum 3 and maximum 11 men were there, while minimum number of women directors were 0 and maximum 4.

Table 13

Descriptive Statistics About the Number of Man and Women directors Across Respondent Companies For 5-Year Period (FY 2018-19 To 2022-23) (N=55)

						Skewness		Kurtosis		Shapir
	Min	Max	Mean	Med	Sd	Value	Z	Value	Z	o-Wilk
Men	3	11	6.56	6.00	2.05	0.62	1.92	-0.34	-0.54	0.002
Women	0	4	1.42	1.00	0.71	1.42	4.40	2.46	3.89	0.000

The standard deviation for men directors is 2.05 indicating moderate variability while for women directors it is 0.71 indicating less variability in number of women directors. For men directors the Z score of skewness was (1.92) and Z score of Kurtosis (-0.54) are well within the desired normality range of -1.96 & +1.96, indicating somewhere somewhat normally distributed. However, Shapiro-Wilk test confirms otherwise as the p value =0.002 < 0.05 indicating data is non-normally distributed. For women directors the Z score of skewness was 4.40 and Z score of Kurtosis is 3.89, both not within the desired range of normality assumption ± 1.96 , failing to pass the normality test, which was further confirmed by Shapiro-Wilk test. The descriptive statistics highlight that there is significant gender imbalance on corporate boards of the listed companies with men holding the majority of directorships and women having a much more limited presence.

Further the data is also presented through graphical techniques like histogram and Normal Q-Q plots to confirm the non-normality of the data.

Figure 5

Histogram and Normal Q-Q Plots for Women directors on Board of Respondent Companies

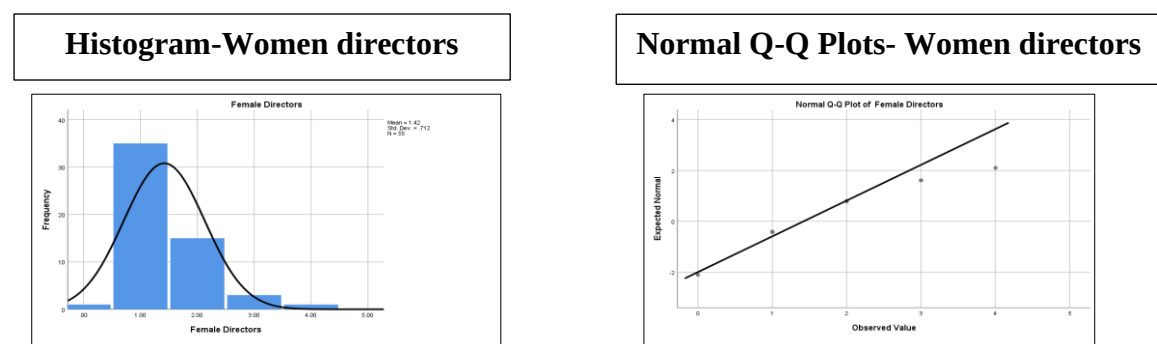


Figure 5 represents the histogram and Normal Q-Q plots of Women directors on boards. The histogram is highly skewed towards right indicating majority of the firms have fewer women directors on board.

The Normal Q-Q Plots shows the observed values and expected values indicating that most of the data points follow the straight line, with few exceptions on the upper end, indicating towards few companies with 3- or 4-women directors. These deviations in Normal Q-Q plots indicate that the distribution is normal and is skewed towards right having longer tail, consistent with the histogram's observation.

Figure 6

Histogram and Normal Q-Q Plots for Men Directors on Board of Respondent Companies

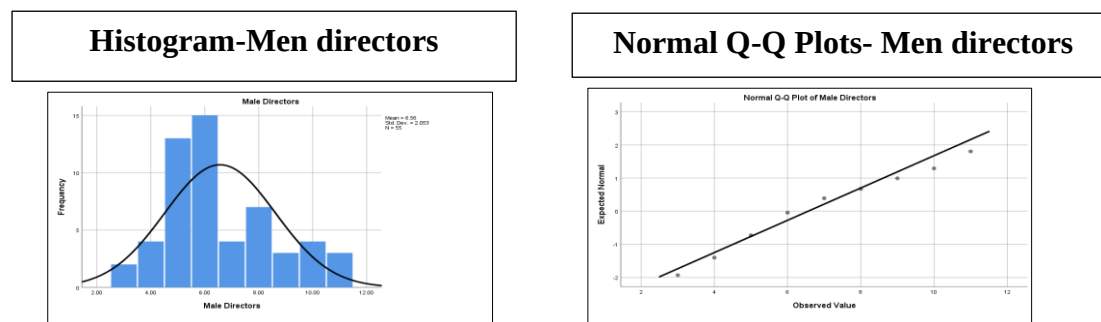


Figure 6 represents the histogram and Normal Q-Q plots of Men directors on boards. The histogram is slightly skewed towards right indicating few firms with more than 6-men directors on board. The Normal Q-Q Plots shows the observed values and expected values indicating that most of the data points follow the straight line, with few exceptions on the upper end and lower end, indicating towards few companies with 10 or more men directors and few companies with 3- or 4-men directors. These deviations in Normal Q-Q plots indicate that the distribution is normal and is slightly skewed towards right, consistent with the histogram's observation.

Designation of Women Directors

The Designation of Women directors refers to the specific roles or titles held by woman members on the boards of directors within organizations. There are majorly three types of designation of directors viz. Executive Director, Non-Executive Director and Independent Director.

Table 14 presents the frequency distribution of women directors' designation wise across 55 respondent companies over the period of 2018-19 to 2022-23. From the table it is clearly visible that majority of the companies i.e. 81.82% (n=45) did not have women executive directors. While only 16.36% (n=9) companies had 2 executive directors. 78.18% (n=43) of companies do not have any non-executive women directors and only 20% companies had one non-executive women directors.

Table 14

Designation wise Frequency Distribution of Women directors Across Respondent Companies (average from 2018-19 till 2022-23)

No. of Women directors	Executive		Non-Executive		Independent	
	n	%	N	%	N	%
0	45	81.82%	43	78.18%	10	18%
1	9	16.36%	11	20.00%	39	71%
2	1	1.82%	1	1.82%	5	9%
3	0	0	0	0	1	2%
Total	55	100.00%	55	100.00%	55	100.00%

The majority, 71% (n=39) of companies, had one independent woman director, showing that most of the companies prefer to appoint independent women directors rather than executive or non-executive women directors. While 11% (6) companies had 2 or more-women directors on their boards. The frequency distribution table shows that though majority of the organization prefer independent women directors for their boards, the representation of women directors is still limited to 1 position in majority of the respondent companies, with some exception cases of appointing 2 or more-women directors.

Board Composition and Demographics of Directors of Respondent Companies for Financial Year 2022-23

This dataset provides comprehensive details on the demographics and professional attributes of both men and women directors serving on the boards of the respondent companies for the financial year 2022-23. The data includes: age, experience of the directors, qualification, average salary of the directors, attendance of board meetings and total directorships in other companies. This comprehensive data helped in enabling in depth analysis of gender diversity,

age and experience diversity, gap in the qualifications & remuneration of men and women directors as well participation in decision making process via board meetings attendance.

Age of the Directors on Board of the 55 Listed Companies for Financial Year 2022-23

Table 15 represents the descriptive statistics of Men & Women directors' age in 55 respondent companies. Total 432 directors' data was considered for the analysis of which 346 are men directors and 86 were women directors, i.e. 4:1 ratio of men and women directors. The table shows that the minimum age of a man director was 23 and maximum age of a man director was 89.

Table 15

Descriptive Statistics Showing Age of Men & Women directors Across Respondent Companies During Financial Year 2022-23

Gender	N	Mean	Median	Mode	Min	Max	Std
Men	346	60.34	61	60	23	89	10.98
Women	86	54.97	56	45	32	82	11.06

Whereas the minimum age of a woman director was 32 and maximum age of a woman director was 82. The mean age of a man director was 60.34, while the mean age of a woman director was 54.97. Standard deviation of a man director age was 10.98 and standard deviation of a woman director age was 11.06. The median age of a man director was 61 indicating half the men directors were older than 61, while median age of a woman director was 56 indication half the women directors were older than 56. Mode of man director age was 60 and woman director age was 45.

The minimum age of man director was 23 indicating early entry of a men directors on the boards compared to their female counterparts whose minimum age was 32. While the maximum age of man director was 89 indicating that men directors exit late from the boards in comparison to women directors whose maximum age was 82. This further suggests that the tenure of men directors on the corporate board is higher than the women directors.

The mean age of a woman director was ($\bar{x}$ 54.97), reflecting with women directors generally being younger on an average than men directors ($\bar{x}$ =60.34). Even the mode which as 45 the most common age among women directors, showing a tendency toward younger ages of women directors as compared to their men counterparts. The results are aligned with research

study (Sharma & Rawat, 2018) which confirmed that men directors enter at early age on boards compared to women directors, while the retiring age of men directors was higher than their woman counterparts.

Table 16 represents frequency distribution of experience (in years) for men and women directors on the boards across the respondent companies for the financial year 2022-23. Total 432 directors' data is considered for the analysis of which 346 are men directors and 86 are women director, i.e. 4:1 ratio of man and women directors.

Table 16

Total Experience (in years) of the Directors on Board Across Respondent Companies for the Financial Year 2022-23

Experience Years	Men Directors	Percentage	Women Directors	Percentage	Total
1-10	6	1.73%	7	8.14%	13
11-20	31	8.96%	13	15.12%	44
21-30	98	28.32%	32	37.21%	130
31-40	127	36.71%	26	30.23%	153
41-50	69	19.94%	8	9.30%	77
More than 50	15	4.34%	0	0.00%	15
TOTAL	346	100.00%	86	100.00%	432

In category of 1-10 years of experience percentage of men directors was 1.73% (n=6) and that of women directors was 8.14% (n=7). In experience range of 11-20 years the percentage of men directors was 8.96% (n=31) and women directors was 15.12% (n=13). In experience range of 21-30 years percentage of men directors was 28.32% (n=98), while share of women directors was 37.21% (n=32). The percentage share of men directors in experience in range of 31-40 years was 36.71% (n=127) and share of women directors was 30.23% (n=26). In range of 41-50 years' experience percentage of men directors was 19.94% (n=69) and women directors was 9.30% (n=8). Men directors with experience of more than 50 as 4.34% (n=15) and women directors was 0%.

Individually and collectively the percentage of women directors (60.47%) was found higher compared to their male counterparts (39.02%) in experience range of 1-30 years, indicating that many women are relatively new to board positions. Men directors (60.98%) outperform

women directors (39.53%) when it comes to having experience of more than 30 years. This indicates that men directors tend to stay longer on board compared to women directors. Women directors, were more prevalent in the mid-level experience range of (21-30 years), reflecting a potential increase in women attaining board positions in recent years but with generally less experience compared to their men counterparts. This may reflect ongoing efforts to increase women representation on boards, but with relatively newer appointments for women.

Hypothesis Testing for Gender-Based Differences in Total Experience (in years) Among Directors

H₀: There is no significant difference in the total experience (in years) of men and women directors

H₁: There is significant difference in the total experience (in years) of men and women directors

To find out whether there is a statistically significant difference in total experience between men and women directors, a hypothesis test was conducted. Since the data was not normally distributed a non-parametric test – Mann-Whitney U test was conducted to compare the total experience levels between two independent groups i.e. men and women directors. The result of this analysis helped in understanding whether gender-based differences exist in the professional experience of directors, which may reflect broader outlines in career progression and board appointments of directors.

Table 17 presents the outcome of the Mann-Whitney U Test conducted to find out whether there exists any significant difference in the total experience (in years) of men and women directors, the two independent groups of respondent companies for Financial Year 2022-23. There are 346 men directors with mean rank of 230.39 and sum of ranks 79714.50, while there are 84 women directors with mean rank of 160.62 and sum of ranks 13813.500. The Mann-Whitney U value is 10072.500, Wilcoxon W value is 13813.500 and Z value is -4.644 and p value is 0.000 at 5% significance level. The mean rank of men directors (230.39) was higher than the mean ranks of women directors (160.62) indicating that on an average men directors have more experience than women directors.

Table 17

Mann-Whitney U Test for Total Experience of Men and Women directors Across Respondent Companies for FY 2022-23

		Ranks		
	Gender	N	Mean Rank	Sum of Ranks
Experience	Men	346	230.39	79714.50
	Women	86	160.62	13813.50
	Total	432		
Test Statistics ^a				
		Experience		
Mann-Whitney U		10072.500		
Wilcoxon W		13813.500		
Z		-4.644		
Asymp. Sig. (2-tailed)		.000		
a. Grouping Variable: Gender				

Here since the value of p (0.000) was less than 0.05, we rejected the null hypothesis. This suggests that there exists statistically significant level of difference in the experience levels of men and women directors on the boards. The results were in line with frequency distribution analysis which clearly represents that men directors have higher level of experience compared to their women counterparts especially with experience level of more than 40 years, number of men directors are more than women directors. This indicates that women directors are newer to the boards compared to men directors.

Education Qualification of Directors Appointed on Board Across Respondent Companies During Financial Year 2022-23

This dataset provides an overview about the academic and professional qualifications of directors who were appointed to the boards of respondent companies during the financial year 2022-23. It provides different level of education among board members ranging from Undergraduate, Graduate, Post Graduate to PhD and professional qualifications like CA, CS, ICWA, MBBS and Law. Table 18 gives detailed comparison of educational qualifications between man and women directors, thereby revealing differences in the types and level of education between the genders.

Table 18

Frequency Distribution of Educational Qualification of Men & Women directors of 55 Listed Companies for Financial Year 2022-23

Qualification	Male	Percentage	Female	Percentage	Total
Undergraduate	17	4.91%	4	4.65%	21
Graduate	99	28.61%	15	17.44%	114
Post Graduate	131	37.86%	36	41.86%	167
PhD	32	9.25%	9	10.47%	41
Professional Qualification	67	19.36%	22	25.58%	89
Total	346	100%	86	100%	432

Total 432 directors' data was available for the given analysis, of which 346 were men and 86 were women directors. Only small percentage of directors i.e. 4.91% are undergraduate among men directors (n=17) and 4.65% among women directors (n=4). As compared to women directors 17.44% (n=15), 28.61% (n=99) men directors had only graduate degree. 37.86% of men directors (n=131) had post-graduation degree, while 41.86% (n=36) women directors had the post-graduation degree. This suggests that postgraduate education is a common qualification of directors and highly valued among board members.

Almost similar portion of men directors 9.25% (n=32) and women directors 10.47% (n=9) held Ph.D. degree. Percentage of women directors holding professional qualification such as CA, CS, ICWA, Law & MBBS was. 25.58% (n=22), while that of men directors was 19.36% (n=67).

The percentage of men directors having just graduate degree or undergraduate education was 33.53% which is higher compared to women directors i.e. 22.09%. Percentage of women directors 25.58% (n=22) holding professional qualification like CA, CS, ICWA, Law, MBBS degree was higher compared to their man counterparts i.e. 19.36% (n=67). Around 77.91% (n=67) of women directors either had professional degree or were post graduate and above which was higher compared to their men counterparts i.e. 66.47% (n=230). This further confirms that there is no dearth of highly qualified women directors on board who bring in high level of academic qualifications on boards.

Hypothesis testing for Gender-Based Differences in Education Qualification Among Directors

H_0 : There is no significant difference in the education qualification of man and women directors

H_1 : There is significant difference in the education qualification of man and women directors

To determine whether there is a significant difference in education qualification of men and women directors, Mann-Whitney U test was conducted. Since the data is not normally distributed this non-parametric test was chosen and it is suitable for comparing two independent groups—men and women directors in this case. Also, since the educational qualification levels are often categorical, a non-parametric test i.e. Mann-Whitney U test, was more suitable if comparing ordinal levels of education (e.g., Undergraduate, Graduate, Post-Graduate, Ph.D. and Professional Qualifications). The Mann-Whitney U test examines whether the education qualification differs significantly between the two gender groups or not.

Table 19 presents the output of Mann-Whitney U test conducted to determine whether there is significant difference in the education qualification of men and women directors across the respondent companies for the financial year 2022-23.

Table 19

Mann-Whitney U Test for Education Qualification of Men and Women directors for FY 2022-23 for 55 Listed Companies

Ranks				
	Gender	N	Mean Rank	Sum of Ranks
Qualifications	Men	346	210.92	72979.50
	Women	86	238.94	20548.50
	Total	432		

Test Statistics ^a	
	Qualifications
Mann-Whitney U	12948.500
Wilcoxon W	72979.500
Z	-1.948
Asymp. Sig. (2-tailed)	.051
a. Grouping Variable: Gender	

The data was considered for 346 men directors with mean rank as 210.92 and sum of ranks as 72979, while 86-women directors with mean rank of 238.94 and sum of ranks as 20548.50. The results generated a Mann-Whitney U value of 12948.500, a Wilcoxon W value of 72979.500, and a Z score of -1.948, p value of 0.051 at 5% significance level.

Here the mean rank of women directors (238.94) was higher than the mean rank of men directors (210.92) indicating women directors have higher level of education compared to men directors. However, since the p-value (0.051) is above the significance level of 0.05, we failed to reject the null hypothesis. This indicated that there was statistically no significant difference in educational qualifications between men and women directors.

Board Meetings Attendance of Directors at Board Meetings Across Respondent Companies during Financial Year 2022-23

This dataset provides summary of the attendance percentage of men and women directors at board meetings across respondent companies during the financial year 2022-23. The data is categorized as: Executive, Non-Executive, and Independent, and compares their attendance based on gender.

Total 432 directors were on the board of 55 sample companies during the financial year 2022-23, of which 346 were men directors and 86 were women directors respectively. Board meeting attendance reflects the commitment and involvement of directors in various important board discussions. Directors play a vital role in forming the strategic direction and overseeing the management of companies, making their attendance a crucial measure of governance effectiveness.

Table 20

Attendance Percentage of Board Meetings by Men and Women directors of 55 Listed Companies During the Financial Year 2022-23

N	Directors	Executive	Non-Executive	Independent	Overall Average
					Attendance
346	Men	95.28%	90.19%	92.64%	93.05%
86	Women	90%	91.01%	93.19%	92.32%

Table 20 presents the average attendance percentage of 346 men directors and 86 women directors at board meetings held during the financial year 2022-23 across 55 listed companies.

The data was further categorized based on the director's role: Executive Directors, Non-Executive Directors, and independent directors. Average attendance of executive men directors was 95.28% and average attendance women directors was 90%. Average attendance of non-executive men directors was 90.19% and that of women directors was 91.01%. Average attendance of independent men directors was 92.64% and average attendance of independent women directors was 93.19% which was at par with men directors.

The overall average attendance of men directors was 93.05% and overall attendance of women directors was 92.32% slightly less than men directors. The data reflects that the Executive men directors' attendance percentage (95.28%) was higher than their female counterparts (90%). While for non-executive directors for men (90.19%) attendance was slightly lower than women directors (91.01%) and for independent directors also the attendance of women directors was slightly higher (93.19%) compared to men directors (92.64%.) Overall, the average attendance of men directors was 93.05% which was slightly higher than women directors (92.32%).

Hypothesis testing for Gender-Based Differences in Board Meeting Attendance Among Directors

H₀: There is no significant difference in the board meeting attendance of men and women directors

H₁: There is significant difference in the board meeting attendance of men and women directors

To explore whether there was a significant difference in board meeting attendance between men and women directors, Mann-Whitney U test was conducted. Since the data was not normally distributed this non-parametric test was chosen as it was suitable for comparing two independent groups—men and women directors in this case. The Mann-Whitney U test examines whether the attendance percentage differs significantly between the two gender groups or not.

To explore the potential differences in board meeting attendance between men and women directors, non-parametric test Mann-Whitney U test was conducted for data collected from 55 listed companies during the financial year 2022-23. Table 21 represents the Mann-Whitney U Test results for the same.

Table 21

Mann-Whitney U Test for Board Meeting Attendance of Men and Women directors Across Respondent Companies for Financial Year 2022-23

		Ranks		
	Gender	N	Mean Rank	Sum of Ranks
Attendance	Men	346	216.41	74877.00
	Women	86	216.87	18651.00
	Total	432		
Test Statistics^a				
Attendance				
Mann-Whitney U		14846.000		
Wilcoxon W		74877.000		
Z		-.040		
Asymp. Sig. (2-tailed)		.968		
a. Grouping Variable: Gender				

There were 346 men directors with mean rank of 216.41 and sum of ranks as 74877.00, while there were 86 women directors with mean rank as 216.87 and sum of ranks as 18651.00. Mann-Whitney U value of 14846.000, a Wilcoxon W value of 74877.000, and a Z score of -0.040, and p value was 0.968 at significance level of 5%.

Though there was slight difference in the mean value of men and women directors but not significant enough since the p-value (0.968) was much higher than the significance level of 0.05, we failed to reject the null hypothesis. This suggested there was no statistically significant difference in the board meeting attendance between men and women directors in Financial Year 2022-23.

Number of Directorships of Directors Across Respondent Companies for Financial Year 2022-23

This section provides an analysis of the total directorships held by board of directors in publicly limited companies of 55 listed companies during the financial year 2022-23. The distribution of directorships held by Men and Women directors was also categorized as per the designation of the directors i.e. Executive, Non-Executive and Independent directors. This information offers insights into the extent of board involvement across companies, allowing for

comparisons of gender-based representation and directorship frequency within these firms. The analysis also provides the descriptive statistics about the minimum and maximum directorships held by the board members across the public listed companies.

Table 22

Descriptive Statistics About the Directorships Held by Men and Women Directors Across Respondent Companies for Financial Year 2022-23

Gender	N	Mean	Median	Mode	SD	Min	Max
Men	346	3.14	2	1	2.36	1	10
Women	86	2.68	2	1	1.94	1	10

Table 22 provides descriptive statistics summary of the number of directorships held by men and women directors in sample companies for Financial Year 2022-23. Total 432 directors' data for FY 2022-23 was considered for the analysis of which 346 were men directors and 86 were women directors.

The average number of directorships held by men directors was 3.14 and that of women directors was 2.68. Mode for men directors was 1 and that for women directors was also 1. While the standard deviation for men directors was 2.36 which was higher compared to women directors (SD=1.94). Median directorships for men and women directors were also equal i.e. 2. Minimum directorships held by men directors was 1 and maximum directorships held was 10. Minimum directorships held by women directors was 1 and maximum directorships held is 10.

The descriptive analysis reveals that on an average more men directors (3.14) hold a greater number of directorships as compared to women directors (2.68). The minimum number of directorships held by men and women directors was equal, the maximum number of directorships held by a men and women directors was also equal (10). There is higher variability among men directorships as per SD (2.36) as compared to women directors with SD (1.94). The overall data reveals existing gender differences in number of board memberships and possibly indicates room for greater inclusivity and opportunities for women directors in board leadership roles.

Table 23

Frequency Distribution of Directorships Held by Men and Women Directors Across Respondent Companies for Financial Year 2022-23

No. of Directorships	Men	Percent	Women	Percent
1.00	133	38.4%	34	39.5%
2.00	63	18.2%	16	18.6%
3.00	42	12.1%	11	12.8%
4.00	25	7.2%	7	8.1%
5.00	18	5.2%	11	12.8%
More than 5	65	18.8%	7	8.1%
Total	346	100%	86	100%

Table 23 reveals the frequency distribution of the number of directorships held by men and women directors across 55 public listed companies for the financial year 2022-23. A large portion of both women (39.5%) and men directors (38.4%) held only one directorship, indicating that most directors, regardless of gender, tend to serve on a single board.

18.2% of men directors (n=63) held directorships in two public listed companies and 18.6% of women directors (n=16) held directorships in two public listed companies. Men directors held directorships in three public listed companies was 12.1% (n=42) and that of women directors was 12.8% (n=11).

7.2% men directors (n=25) held directorships in four companies and 8.1% of women directors (n=7) held directorships in four public listed companies. 5.2% (n=18) men directors held directorships in five companies and 12.8% (n=11) women directors held directorships in five companies. While the percentage of men directors was 18.8% (n=67) in more than five publicly listed companies and that of women directors was 8.1% (n=7). The research analysis revealed that with the increase in number of directorships, the percentage share of directors decreases. 18.6% of women directors and 18% of men directors held two directorships, while 12.1% men directors and 12.8% of women directors held three directorships. Similarly, very less percentage of directors held four or five directorships on boards. 18.9% of men directors held directorships in more than five corporate boards compared to 8.1% of female counterparts, indicating higher gap in the category. more than five directorships as compared to their female

counterparts with only 8.1%. Thus, the analysis indicated that men directors are more likely to hold directorships at multiple boards as compared to women directors.

Table 24 presents the frequency distribution regarding number of directorships of men and women directors categorized by their designation—Executive, Non-Executive, and Independent— of 55 listed companies for FY 2022-23. This data provides understandings into the gender representation across different types of board positions and the distribution of directorships as per the types of directorships of the director.

Table 24

Frequency Distribution of Men and Women Directors by Type of Directorship in Sample Companies for Financial Year 2022-23

Total Directorship	Executive				Non-Executive				Independent				Total	
	M	%	W	%	M	%	W	%	M	%	W	%	M	W
1	55	41%	7	21%	19	14%	9	26%	59	44%	18	53%	133	34
2	26	41%	3	19%	8	13%	3	19%	29	46%	10	63%	63	16
3	12	29%	0	0%	12	29%	4	36%	18	43%	7	64%	42	11
4	5	20%	0	0%	4	16%	0	0%	16	64%	7	100%	25	7
5	5	28%	1	9%	4	22%	1	9%	9	50%	9	82%	18	11
> 5	15	23%	0	0%	22	34%	1	14%	28	43%	6	86%	65	7

Out of total men directors holding single directorship in the public listed companies, executive directors were 41% (n=55), non-executive directors were 14% (n=19) and independent directors were 44% (n=59). While only 21%(n=7) women directors holding single directorship were executive directors, 26% (n=9) were non-executive directors and 53% (n=18) were independent directors. Out of total men directors holding two directorship, 41% (n=26) had executive roles, 13% (n=8) were non-executive directors and 46% (n=29) were independent directors. Out of total women directors holding two directorship, 19% (n=3) were executive directors, 19% (n=3) were non-executive directors and 63% (n=10) were independent directors.

Men directors holding three directorships in listed companies 29% (n=12) belonged each to executive and non-executive directorship, while 43% (n=18) belonged to independent director's category. the majority of executive roles across different levels of directorships. Out of total women directors holding three directorships in listed companies none of them belonged

to executive director position, 36% (n=4) were non-executive directors and 64% (n=7) were independent directors. In category of four directorships held by the men directors 20% (n=5) were executive directors, 16% (n=4) directors were non-executive directors and 64% (n=16) were independent directors. While all the women directors (n=7) i.e. 100% having four directorships in listed companies were independent directors in the organization. Out of total men directors holding five directorships in the listed firm 28% (n=5) were executive directors, 22% (n=4) were non-executive directors and 50% (n=9) were independent directors. While for women directors under the same category 9% (n=1) each were executive and non-executive directors and 82% (n=9) were independent directors.

Out of total men directors holding more than five directorships across listed companies 23% (n=15) were executive directors, 34% (n=22) were non-executive directors and 43% (n=28) were independent directors. While for same category none were from executive directors, 14% (n=1) were non-executive directors and 86%(n=6) were independent directors. The table 22 reveals that men directors predominantly occupy executive and non-executive positions across most categories, with a higher frequency of holding multiple board roles. 45% of women directors in independent roles hold multiple directorships on boards of public listed companies. Women directors are more concentrated in independent directorship roles, that highlights a potential trend of women being appointed as independent directors rather than holding executive positions. This distribution sheds light on gender-based roles within board positions and the ongoing disparity in board composition across different designations. The sole purpose of company seems in fulfilment of legal compliance rather than promoting gender diversity on the boards.

Hypothesis Testing for Gender-Based Differences in Total Directorships in Listed Companies Among Directors

H₀: There is no significant difference in the total directorships held by men and women directors

H₁: There is significant difference in the total directorships held by men and women directors

To explore if there was statistically significant difference in the total number of directorships held by men and women directors across 55 listed companies for the financial year 2022-23, a non-parametric test i.e. Mann-Whitney U test was conducted. Since the data was not normally distributed Mann-Whitney U test is suitable to compare two independent groups (men and

women directors). The analysis helped in understanding if there was difference in the multiple directorships held by both the genders on the boards.

Table 25 presents the results of Mann-Whitney U test. In the Mann-Whitney U test results for total directorships held, the ranks data provide insight into the mean ranks and sum of ranks for men and women directors.

Table 25

Mann-Whitney U Test for Total Directorships Held in Listed Companies by Men and Women Directors for FY 2022-23 for 55 Listed Companies

Ranks				
	Gender	N	Mean Rank	Sum of Ranks
Total Directorship held	Men	346	218.62	75643.00
	Women	86	207.97	17885.00
	Total	432		
Test Statistics^a				
Total Directorship held				
Mann-Whitney U		14144.000		
Wilcoxon W		17885.000		
Z		-.733		
Asymp. Sig. (2-tailed)		.463		
a. Grouping Variable: Gender				

There were 346 men directors, having mean rank of 218.62, and total sum of ranks of 75643.00. There were 86 women directors having a mean rank of 207.97, and total sum of ranks of 17885.00. The Mann-Whitney U value of 14,144, a Wilcoxon W value of 17885 and a Z score of -0.733, p value as 0.463 at 5% significance level. The mean rank for men directors (218.62) was slightly higher than the women directors (207.97) indicating that men directors, on an average, hold marginally more directorships than women directors. However, the Mann-Whitney U test result showed a p-value of 0.463, indicating that this difference in ranks was not statistically significant. However, since the p-value (0.463) was greater than the significance level of 0.05, we failed to reject the null hypothesis. This indicates that there was no statistically significant difference in the total number of directorships held by men and women directors in publicly listed companies.

Average Remuneration of Directors in Listed Companies (Financial Years 2018-19 to 2022-23)

Executive Directors are part of senior management team in an organization who are involved in day-to-day operations and strategic decision making in the organization. Their remuneration includes fix pay and performance base pay. Non-Executive directors are board members who are not involved in company's daily operational activities but have material or financial relationship in the company. They provide strategic guidance and usually represent specific shareholder or shareholder interests on board. They received sitting fees for attending board meetings and committee meetings of which they are part of. Independent directors are board members who do not have any kind of material or pecuniary relationship in the company. Independent directors are appointed to bring their expertise on the boards and bring unbiased perspective in the boards' decision. They act as a vigilance to protect interest of minority shareholders and maintain ethical standards in the company. They receive sitting fees for attending board meetings and committee meeting of which they are part of plus at times commission based on firm's performance. Independent directors are mostly part of important committees like audit committee, nomination and remuneration committee and risk management committee.

Table 26 shows the average remuneration of executive directors across sample listed companies from the financial years 2018-19 to 2022-23.

Table 26

Average Remuneration of Executive Men and Women Directors for Five Financial Year 2018-19 to 2022-23 (amount in ₹)

Executive Directors	2018-19	2019-20	2020-21	2021-22	2022-23
Men	41650081	34129098	39159528	35816448	45655891
Women	14249121	13635469	16196903	21776779	21171795
Men/Women ratio	2.92:1	2.52:1	2.42:1	1.64:1	2.16:1

Average remuneration of men directors was fluctuated, with a notable decrease in 2019-20 due to the pandemic, as most of the male directors voluntarily waived off their salary, as revealed in annual reports of the sample companies. It was followed by gradual recovery, reaching the highest in 2022-23 at ₹45,655,891. The average remuneration of women directors remained

stable in the earlier years but increased in 2021-22 (₹21,776,779) before a slight decline in 2022-23. The men to women remuneration ratio showed that Executive men directors earned 2.92 times higher than Executive women directors in 2018-19, which decline to 2.52 times in 2019-20, 2.42 times in 2020-21 and in FY 2021-22 the Executive men directors earned just 1.64 times more than of Executive women directors, however, in 2022-23 the gap again increased to 2.16 times.

On an average women executive directors earned half the remuneration of men directors earned. Though the gap is gradually and slowly reducing over the years still gender pay gap is clearly visible among the executive directors. Figure 7 presents the trends in average remuneration for executive men and women directors on boards across respondent companies.

Figure 7

Trends in Average Remuneration for Executive Men and Women Directors Over Five Financial Years from 2018-19-2022-23

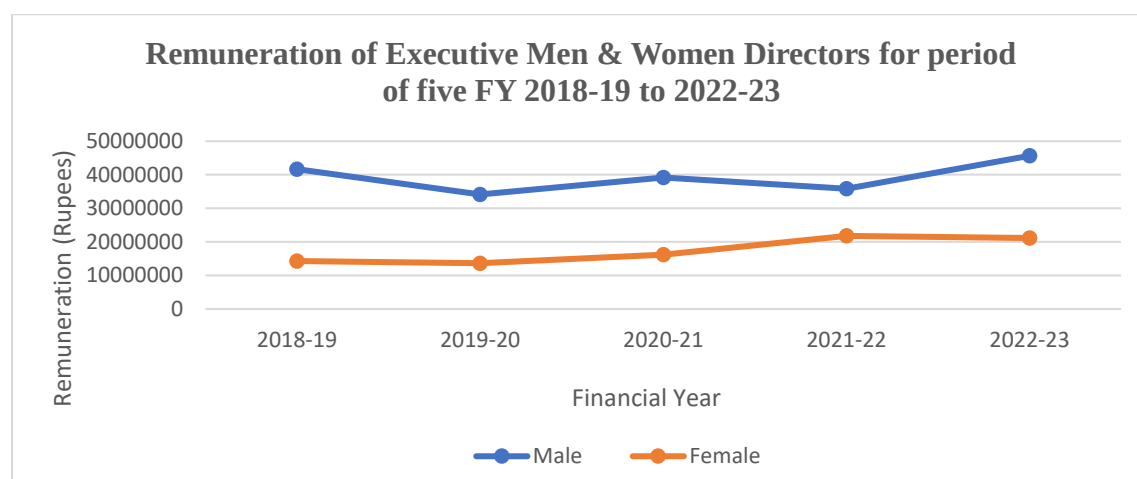


Table 27

Average Sitting Fees of Non-Executive Men and Women Directors for Five Financial Year 2018-19 to 2022-23 (amount in ₹)

Non-Executive Directors	2018-19	2019-20	2020-21	2021-22	2022-23
Men	1704724	1382446	1293616	2876839	1641000
Women	773875	1925917	2013000	2232333	1804375
Men to Women ratio	2.20:1	1:1.39	1:1.56	1.29:1	1:1.09

Table 27 shows the average remuneration of non-executive directors across 55 listed companies from the financial years 2018-19 to 2022-23. The remuneration of non-executive

directors is the sitting fees they receive for attending board meetings and committee meetings and sometimes commission. In 2018-19, men non-executive directors earned 2.20 times average higher fees than women counterparts. However, in 2019-20 and 2020-21 it reduced may be due voluntary waiving off of salary as reflected in the annual reports of the respondent companies or reduced board activities. In 2021-22 again average sitting fees of men directors was 1.29 times higher than women non-executive directors which again declined in 2022-23.

Figure 8 represents the Trends in average remuneration of non-executive men and women directors over period of five financial years 2018-19 to 2022-23.

Figure 8

Trends in Average Remuneration for Non-Executive Men and Women Directors Over Five Financial Years from 2018-19-2022-23

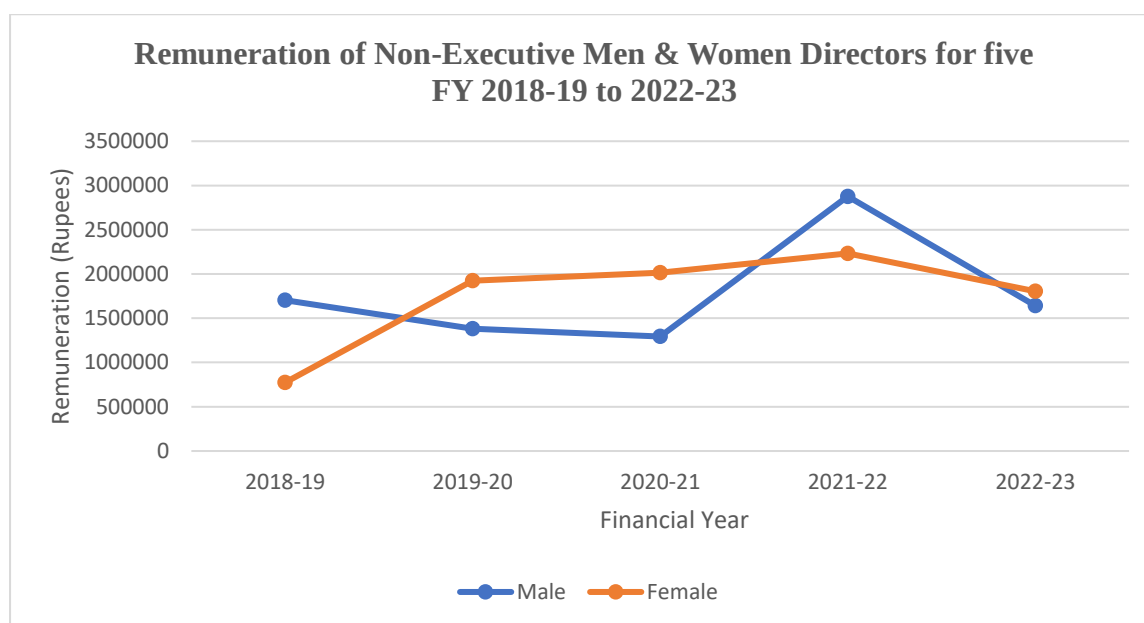


Table 28

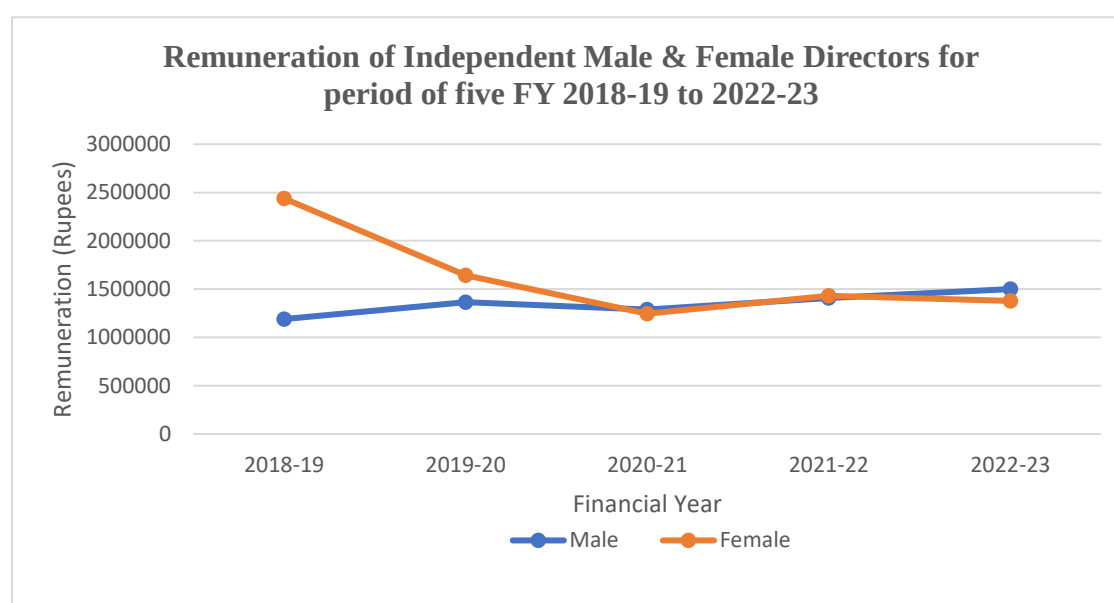
Average Renumeration of Independent Men and Women Directors for Five Financial Year 2018-19 to 2022-23 (amount in ₹)

Independent Directors	2018-19	2019-20	2020-21	2021-22	2022-23
Men	1189940	1366025	1290182	2512758	1500291
Women	2438401	1643275	1245946	1431515	1378009
Men to Women ratio	1:2.05	1:1.2	1.04:1	1.02:1	1.09:1

Table 28 presents the average remuneration earned by independent directors across sample listed companies from the financial years 2018-19 to 2022-23. The remuneration of independent directors is earned in the form of sitting fees they receive for attending board meetings and committee meetings and sometimes also commission on the basis of performance. Independent directors are mostly part of important committees like audit committee, nomination remuneration committee to ensure unbiased decision to take place in the meetings. Independent directors are considered to be the watchdogs as they make sure company operates with ethical standards. In 2018-19 & 2019-20 the average earning of women independent directors was 2 times & 1.2 times higher than men directors, however from 2020-21 average earning of women independent directors reduced slightly.

Figure 9

Trends in Average Remuneration for Independent Men and Women Directors Over Five Financial Years from 2018-19-2022-23



One of the reasons might be higher recruitment of independent women directors as regulation 17 of listing agreement which required top 500 listed companies to have at-least one independent women director by 1st April 2019 and board of top 1000 listed companies to have at-least one independent director by 1st April 2020. From Year 2020-21 to 2022-23 the average remuneration of men and women directors is almost at par with each other. Figure 9 presents the trend of average earnings of men and women directors for five financial years 2018-19 to 2022-23 in roles of Independent Directors.

Overall, while there are signs of increasing equity in compensation, among non-executive and independent directors since mostly it is based on sitting fees, while few companies pay commission on performance along with sitting fees, the men executive directors continue to receive higher fees than their women counterparts. This highlights areas for further improvement in achieving gender pay parity in boardrooms.

Board Committees of Women directors in 55 Listed Companies in Financial Year 2022-23

A board Committee is group of board of directors that focuses on specific areas of company's operation. They are basically formed to provide in-depth analysis and expertise in the area. There are certain committees that are mandatory to be formed as per the SEBI's listing agreement and Companies Act 2013 i.e. Audit Committee, Nomination and Remuneration Committee, CSR Committee and Stakeholders Relationship Committee.

Table 29 represents descriptive statistics of women directors who are member in various board committees of 55 listed Indian companies for the fiscal year 2022-23.

Table 29

Women directors in Different Board Committees of 55 listed Companies During Financial Year 2022-23

Committees	Frequency	Percentage
Audit	35	20%
Nomination & Remuneration	44	25%
CSR	40	23%
Risk Management	18	10%
Stakeholder Relationship	26	15%
Others	14	8%
Total	177	100%

Women directors make up 20% (n=35) of roles within the Audit Committee. This committee is critical, as it oversees financial reporting and compliance, areas where diverse perspectives are increasingly valued for maintaining integrity and transparency.

Women directors are mostly part of Nomination & Remuneration Committee, comprising 25%(n=44) of the roles. This committee's focus on executive recruitment, compensation, and

succession planning benefits from diverse inputs, which can lead to more equitable policies. With 23%(n=23) representation in CSR, women are also significantly involved in CSR activities. This aligns with findings that women often bring a strong emphasis on ethics and community-focused decision-making.

Representation is lower in the Risk Management committee, at 10%(n=18), perhaps reflecting traditional biases that have historically limited women in high-stakes strategic roles. Women directors comprise 15%(n=26) of Stakeholder Relationship committee, which manages investor relations and stakeholder concerns—a key area where empathetic and inclusive approaches are beneficial.

The remaining 8%(n=14) were part of miscellaneous committees like investment, public consumer, corporate responsibility, hedging policy review, business responsibility, ESG committee, strategic business development, share transfer committee etc., showing a smaller but still important level of involvement. This distribution reflects both the strides and the challenges women face in board committee participation. Although representation is notable, particularly in CSR and Nomination & Remuneration, gaps in areas like Risk Management highlight ongoing barriers to achieving balanced gender diversity across all board committee functions.

Nomination and Recruitment Process of Women directors

Before doing the in-depth study of women directors this research tries to find out the nomination and recruitment process of women directors in the publicly listed companies. Clause 49 of listing agreement of SEBI states about the nomination and appointment of directors. In case of appointment of women director, it was tried to find out how women were identified for position of women directors.

Resources for Identifying Prospective Women directors

Table 30 exhibits about multiple ways by which the potential women candidates are identified for the position of directorship. The respondents could select multiple responses. 34.5% (n=19) respondent companies identified the prospective women candidates for the post of directorship through Internal management committee/nomination committee, as prescribed by the listing agreement.

Table 30*Sources for Identifying Prospective Women Directors*

Sources	Responses		Percent of Cases
	N	Percent	
Consultant	8	9.6%	14.5%
Govt Institutions	4	4.8%	7.3%
Employer Associations	5	6.0%	9.1%
Promoters	10	12.0%	18.2%
Friends and close circle of the controlling shareholder	7	8.4%	12.7%
Being family members of the promoters or controlling shareholders	4	4.8%	7.3%
Internal Management committee/nomination committee	19	22.9%	34.5%
Prime database	7	8.4%	12.7%
Others	19	22.9%	34.5%
TOTAL	83	100.0%	150.9%

In 18.2% companies promoters of respective companies identified the prospective women candidates for the post of directorship, 14.5% companies identify potential candidates for the post of directors through consultants, 12.7% companies used friends and close circle of the controlling shareholders and 12.7% companies used prime database to identify the potential candidates, 9.1 % companies identify prospective women candidates through employer association, 7.3% companies identifies prospective women candidates through Government institutions and 7.3% companies from the family members of the promoters or controlling shareholders.

Process of Nomination of Women for Directorship

After understanding the sources of identifying prospective women directors, it was deemed fit to understand the nomination process of women candidates as directors.

Table 31 reveals about the person/ agency that nominates women directors on the boards. Respondents were free to choose multiple choices.

Table 31*Nomination of Women Directors*

Nominating People/Agency	Responses		Percent of Cases
	N	Percent	
Nomination Committee/ Selection Committee	38	58.5%	69.1%
Promoter/ Controlling Shareholders	12	18.5%	21.8%
Chairperson	10	15.4%	18.2%
Government	2	3.1%	3.6%
Consultant	1	1.5%	1.8%
CEO	1	1.5%	1.8%
Others	1	1.5%	1.8%
Total	65	100.0%	118.2%

In 69.1% (n=38) companies, Nomination & Selection Committee plays a major role in nominating women for directorship, while in 21.8% companies (n=12) promoters/controlling shareholders nominates women directors, in 18.2% companies (n=12) Chairperson of the board nominates the women directors, while in rest of the companies i.e. 9% (n=5) Government, CEO, consultant or others nominate women directors on board.

Authorities Appointing Women Directors

After nomination, it was attempted to find out authorities that appoint women directors. Table 32 shows various stakeholders that appoint women directors on board.

Table 32*Authorities Appointing Women Directors*

Authorities Appointing Women directors	Responses		Percent of Cases
	N	Percent	
Board	38	39.6%	69.1%
Nomination Committee	29	30.2%	52.7%
Shareholders in AGM	27	28.1%	49.1%
Government	2	2.1%	3.6%
TOTAL	96	100.0%	174.5%

In Majority of the companies i.e. 69.1% (n=38) the Board of the company appoints women directors, while in 52.7% cases (n=29) Nomination committee also plays an important role in appointment of women directors followed by 49.1% companies (n=27) where shareholders in AGM appointed women directors on board and only in 3.6% companies (n=2) where Government was appointing women directors on board reflecting minimal role of the government in appointment of women directors. Thus, company considers multiple authorities while appointing women directors on the board.

Support to Mandatory Quota for Women directors

Recognizing the importance of gender diversity on boards, Companies Act 2013, Section 149 and SEBI Listing Obligations and Disclosure Requirements (LODR) clause 49, mandated appointment of at least one-woman director by all the publicly listed companies by 1st April 2015.

Table 33

Frequency Distribution About Whether Respondents Supported Mandatory Quotas for Improving Gender Diversity on Board (N=55)

Supporting Mandatory Quotas on board	Frequency(n)	Percent
Yes	44	80
No	11	20
Total	55	100

Table 33 reflects that majority of the respondents were in favour of mandatory quotas for improving gender diversity on board with 80% (n=44) respondents answered in affirmation. While 20% (n=11) of respondents did not support mandatory quotas for improving gender diversity on board.

Hypothesis Testing to find the significant association between demographical variables like type of industry, Sector (ownership), age of the organization, board size, gender of respondents and respondents' support for mandatory quota for women directors on board.

H₀: There is no significant association between demographical variables like type of industry, Sector (ownership), age of the organization, board size, gender of respondents and respondents' support for mandatory quota for women directors on board.

H₁: There is significant association between demographical variables like type of industry, Sector (ownership), age of the organization, board size, gender of respondents and respondents' support for mandatory quota for women directors on board

To check the hypothesis of association between type of industry and supporting mandatory quota for women directors on board, cross tabulation was done and there after the test was decided whether Chi-Square test or Fisher's Exact Test to be conducted. Since the data is non parametric and does not fulfil the criteria of minimum 5 frequency in each cell, researcher was not able to perform Chi-Square test for the same.

Table 34

Cross Tabulation Regarding Type of Industry and Respondents Support Towards Mandatory Quotas to Improve Gender Diversity on Boards (N=55)

			Support mandatory quotas		Total
			No	Yes	
Type of Industry	Manufacturing	Count	7	35	42
		Expected Count	8.4	33.6	42.0
		% within Type of Industry	16.7%	83.3%	100.0%
		% support mandatory quotas	63.6%	79.5%	76.4%
	Service	Count	4	9	13
		Expected Count	2.6	10.4	13.0
		% within Type of Industry	30.8%	69.2%	100.0%
		% support mandatory quotas	36.4%	20.5%	23.6%
	Total	Count	11	44	55
		Expected Count	11.0	44.0	55.0
		% within Type of Industry	20.0%	80.0%	100.0%
		% support mandatory quotas	100.0%	100.0%	100.0%

The table 34 shows the cross tabulation of type of industry and respondents' support towards mandatory quotas to improve gender diversity on board. The table reveals that majority of respondents i.e. 80% (n=44) supported the quotas for improving gender diversity on boards and 20% (n=11) respondents did not support the mandatory quotas on boards. Within

manufacturing industry 83.3% (n=35) companies supported the mandatory quotas and 16.7% (n=7) did not supported mandatory quotas. While within service industry 69.2% (n=9) supported mandatory quotas and 30.8% (n=4) did not supported the mandatory quotas on boards. Overall, the companies in the manufacturing industry are more likely to support mandatory quotas for improving gender diversity on boards as compared to the companies in service industry.

Table 35

Fisher's Exact Test Between Type of Industry and Supporting Mandatory Quota for Women directors on Board (N=55)

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.234 ^a	1	.267		
Continuity Correction ^b	.510	1	.475		
Likelihood Ratio	1.149	1	.284		
Fisher's Exact Test				.427	.232
Linear-by-Linear Association	1.212	1	.271		
N of Valid Cases	55				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.60.

b. Computed only for a 2x2 table

Since few cells had expected frequency less than 5, instead of Chi-Square test, Fisher's Test was conducted to check the association between type of industry and respondents support for mandatory quotas.

Table 35 represents the results of Fisher's exact test between type of industry and respondents supporting mandatory quota for women directors on boards. The result of the Fisher's exact test ($p = 0.427$) was greater than alpha level 0.05, indicates that no significant association was found between type of industry and respondents' support for mandatory quota for women directors on board. Therefore, researcher failed to reject the null hypothesis indicating that there was no significant association between type of industry and respondents' support for mandatory quota for women directors on board.

Cross Tabulation was done to explore relationship between Sector (ownership) and respondents supporting mandatory quotas for women directors to improve gender diversity on boards. Table 36 represents the cross tabulation for the same.

Table 36

Cross Tabulation Between Sector (Ownership) and Respondents Supporting Mandatory Quotas for Women directors to Improve the Gender Diversity on Boards (n=55).

			Support mandatory quotas		Total
			No	Yes	
Sector (Ownership)	Private	Count	8	41	49
		Expected Count	9.8	39.2	49.0
		% within Sector (Ownership)	16.3%	83.7%	100.0%
		% within support mandatory	72.7%	93.2%	89.1%
	PSU	Count	3	3	6
		Expected Count	1.2	4.8	6.0
		% within Sector (Ownership)	50.0%	50.0%	100.0%
		% within support mandatory	27.3%	6.8%	10.9%
	Total	Count	11	44	55
		Expected Count	11.0	44.0	55.0
		% within Sector (Ownership)	20.0%	80.0%	100.0%
		% within support mandatory quotas	100.0%	100.0%	100.0%

The cross-tabulation data reveals that vast majority of private companies i.e. 83.7% (n=41) support mandatory quotas on boards, while only 16.3% (n=8) oppose them. In contrast, among PSUs, with half (n=3) were supporting quotas and the other half (n=3) opposing them. Out of total companies supporting the mandatory quotas (n=44) on boards 93.2% (n=41) were from private sector.

Since few cells have expected frequency less than 5, instead of Chi-Square test, Fisher's Test is conducted to check the association between type of Sector (ownership) and respondents' support for mandatory quotas to improve gender diversity on boards.

Table 37 presents the results of Fisher's test between Sector (ownership) and respondents' support for mandatory quotas to improve gender diversity on boards.

Table 37

Fisher's Exact Test Between Sector and Supporting Mandatory Quota for Women Directors on Board (N=55).

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.619 ^a	1	.106		
Continuity Correction ^b	1.238	1	.266		
Likelihood Ratio	2.230	1	.135		
Fisher's Exact Test				.134	.134
Linear-by-Linear Association	2.571	1	.109		
N of Valid Cases	55				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 1.40.

b. Computed only for a 2x2 table

Fisher's Exact Test is a useful statistical tool when one of the cells had less than 5 expected counts. As indicated from the above table the minimum expected count is 1.40. The p-value =0.134>0.05 thereby researcher failed to reject the null hypothesis indicating that there was no significant association between the sector and respondents support for mandatory quotas for women directors on board.

Table 38 presents the Cross Tabulation to find the association between age of organization and respondents' supporting mandatory quota to improve gender diversity on the company boards.

Younger companies with age of upto 50 years 82.4% (n=28) support the mandatory quotas for improving gender diversity on board & 17.6% (n=6) do not support mandatory quotas, while 76.2% (n=16) companies established more than 50 years ago support mandatory quotas and 23.8% (n=5) do not support the quotas on boards. Out of total 44 companies supporting mandatory quotas 63.6% (n=28) companies belonged to younger group and 36.4% (n=16) companies belonged to older group.

Table 38

Cross Tabulation Between Age of The Organization and Respondents Supporting Mandatory Quotas for Women Directors to Improve the Gender Diversity on Boards Across Respondent Companies

			Support mandatory quotas		Total
			No	Yes	
Age of the organization	Upto 50 years	Count	6	28	34
		Expected Count	6.8	27.2	34.0
		% within Age of the organization	17.6%	82.4%	100.0%
		% within support mandatory quotas	54.5%	63.6%	61.8%
	More than 50 years	Count	5	16	21
		Expected Count	4.2	16.8	21.0
		% within Age of the organization	23.8%	76.2%	100.0%
		% within support mandatory quotas	45.5%	36.4%	38.2%
	Total	Count	11	44	55
		Expected Count	11.0	44.0	55.0
		% within Age of the organization	20.0%	80.0%	100.0%
		% within support mandatory quotas	100.0%	100.0%	100.0%

Since few cells had expected frequency less than 5, instead of Chi-Square test, Fisher's Test was conducted to check the association between type of age of the organization and respondents' support for mandatory quotas to improve gender diversity on boards.

Table 39 presents the fisher's test result between age of organizations and respondents support for mandatory quotas to improve gender diversity on boards.

Table 39

Fisher's Exact Test Between Age of The Organization and Supporting Mandatory Quota for Women Directors on Board Across Respondent Companies

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.308 ^a	1	.579		
Continuity Correction ^b	.043	1	.835		
Likelihood Ratio	.304	1	.582		
Fisher's Exact Test				.731	.412
Linear-by-Linear Association	.303	1	.582		
N of Valid Cases	55				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.20.

b. Computed only for a 2x2 table

The fisher's test result shows that the p value was **0.731** which is greater than the critical value 0.05. Thus, the researcher fails to reject the null hypothesis indicating that there was no significant association between age of the organizations and respondents supporting mandatory quotas for women directors on the boards of the company.

Table 40 presents cross tabulation between Board size and respondents supporting mandatory quotas for improving gender diversity on boards. The cross tabulation reveals that 82.8% (n=24) large board size companies, i.e. having 8 or more board members support mandatory quotas and 17.2% (n=5) do not support mandatory quotas on boards to improve gender diversity. While 76.9% (n=20) smaller board size companies support mandatory quotas and 23.1% (n=6) do not support mandatory quotas on boards.

Out of total companies supporting mandatory quotas 54.5% (n=24) companies belong to larger boards and 45.5% (n=20) companies belong to smaller board size. This reflects that companies with larger boards are more open to mandatory quotas for women on board compared to smaller boards. This might be because larger boards have more scope for appointing women directors on boards as compared to smaller boards. Since expected value in each cell was 5, Chi-square

test was conducted to find the association between board size and respondents supporting mandatory quota for women directors on board.

Table 40

Cross Tabulation Between Board Size and Respondents' Supporting Mandatory Quotas for Women directors to Improve the Gender Diversity on Boards Across Respondent Companies

			Support mandatory quotas		Total
			No	Yes	
Board	Less	Count	6	20	26
Size	than 8	Expected Count	5.2	20.8	26.0
		% within Board Size	23.1%	76.9%	100.0%
		% within support mandatory quotas	54.5%	45.5%	47.3%
	8 or more	Count	5	24	29
		Expected Count	5.8	23.2	29.0
		% within Board Size	17.2%	82.8%	100.0%
		% within support mandatory quotas	45.5%	54.5%	52.7%
	Total	Count	11	44	55
		Expected Count	11.0	44.0	55.0
		% within Board Size	20.0%	80.0%	100.0%
		% within support mandatory quotas	100.0%	100.0%	100.0%

Table 41 represents the results of Chi-square test of independence between board size of the company and respondents support for mandatory quota for women directors on boards. The χ^2 value is 0.292 and p value is 0.589 at 5% significance level.

Since $p > 0.05$, researcher fails to reject the null hypothesis indicating there is no association between board size of the organization and respondents supporting mandatory quota for women directors on board.

Table 41

Chi-Square Test Between Board Size of The Organization and Supporting Mandatory Quota for Women Directors on Board Across Respondent Companies

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.292 ^a	1	.589		
Continuity Correction ^b	.041	1	.839		
Likelihood Ratio	.291	1	.589		
Fisher's Exact Test				.739	.419
Linear-by-Linear Association	.286	1	.592		
N of Valid Cases	55				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.20.

b. Computed only for a 2x2 table

Further cross tabulation was done to explore the relationship between gender of respondents and their support for mandatory quotas for improving gender diversity on boards. This was necessary to understand whether gender influences the support for quotas on boards.

Table 42 presents crosstabulation between gender of the respondents and respondent's support for mandatory quotas for improving gender diversity on boards. Out of 41 men respondents 76.5% (n=26) supported mandatory quotas on boards while 23.5% (n=8) opposed the mandatory quotas on boards. In case of women respondents out of total 21 respondents 85.7% (n=18) supported mandatory quotas and 14.3% (n=3) opposed mandatory quotas on boards.

Out of total respondents (n=44) those supporting quotas on boards 59.1% belong to men gender and 40.9% belong to women gender. Table reveals that the support for mandatory quotas to improve gender diversity on boards is strong across both genders.

Table 42

Cross Tabulation Between Gender of Respondents and Respondents Supporting Mandatory Quotas for Improving Gender Diversity on Boards Across Respondent Companies

			Support mandatory quotas		Total
			No	Yes	
Gender of respondent	Men	Count	8	26	34
		Expected Count	6.8	27.2	34.0
		% within Gender of respondent	23.5%	76.5%	100.0%
		% within supporting mandatory quotas	72.7%	59.1%	61.8%
	Wome n	Count	3	18	21
		Expected Count	4.2	16.8	21.0
		% within Gender of respondent	14.3%	85.7%	100.0%
		% within support mandatory quotas	27.3%	40.9%	38.2%
	Total	Count	11	44	55
		Expected Count	11.0	44.0	55.0
		% within Gender of respondent	20.0%	80.0%	100.0%
		% within support mandatory quotas	100.0%	100.0%	100.0%

Since the expected frequency in one of the cells is less than 5, Fisher's Exact test was conducted to find the association between gender of respondents and support for mandatory quotas to improve gender diversity on boards.

Table 43 reveals Fisher's Exact test between gender of respondents and respondents supporting mandatory quotas on boards. The fisher's test results shows that the p value is 0.502 which is greater than the critical value 0.05.

Thus, the researcher fails to reject the null hypothesis indicating that there was no significant association between gender of respondents of the organizations and respondents supporting mandatory quotas for women directors on the boards of the company.

Table 43

Fisher's Exact Test Between Gender of Respondents and Respondents Supporting Mandatory Quotas on Boards Across Respondent Companies

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.693 ^a	1	.405		
Continuity Correction ^b	.236	1	.627		
Likelihood Ratio	.719	1	.396		
Fisher's Exact Test				.502	.319
Linear-by-Linear Association	.681	1	.409		
N of Valid Cases	55				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.20.

b. Computed only for a 2x2 table

Therefore, on the basis of fisher's test & Chi-square test results researcher failed to reject null hypothesis indicating that there was no significant association between demographical variables like type of industry, Sector, age of the organization, board size of the companies, gender of respondents and respondents' support for mandatory quota for women directors.

Relationship between Designation of Women directors and Board Size

Since the data was not normally distributed the researcher has conducted non-parametric test to find out the relationship between designation of women directors and board size of the companies.

The table 44 presents the correlation analysis to examine the relationships among the designations of women directors i.e. Executive, Non-Executive, and Independent Director and Board Size.

By using Spearman's rho, the analysis aimed to identify how these variables interact within the context of corporate governance. Spearman's rho results revealed that there was positive correlation (0.414) between Board Size and the number of women Independent Directors which is significant at 0.01 level ($p=0.002 < 0.01$), indicating that larger boards usually include a

greater proportion of independent women directors on boards. In contrast, the correlations between board size and with Executive (0.075) and non-executive (0.048) women directors were not statistically significant, indicating that board size does not strongly influence these roles. This data provides valuable insights into the dynamics of board composition and governance practices.

Table 44

Spearman's Correlation Between Designation of Women Directors and Board Size Across Respondent Companies

			Executive	Non-Executive	Independent	Board Size
Spearman's rho	Executive	Correlation	1.000	-.118	-.372**	.075
		Coefficient				
		Sig. (2-tailed)	.	.390	.005	.584
		N	55	55	55	55
		Correlation	-.118	1.000	-.044	.048
		Coefficient				
		Sig. (2-tailed)	.390	.	.748	.728
		N	55	55	55	55
		Correlation	-.372**	-.044	1.000	.414**
		Coefficient				
		Sig. (2-tailed)	.005	.748	.	.002
	Board Size	N	55	55	55	55
		Correlation	.075	.048	.414**	1.000
		Coefficient				
		Sig. (2-tailed)	.584	.728	.002	.
		N	55	55	55	55

**. Correlation is significant at the 0.01 level (2-tailed).

Year of Appointment of first Women Director

After knowing whether the respondents support mandatory appointment of women directors, it was important to find out when the first women directors were appointed in the respondent companies.

Table 45 presents the descriptive statistics about the year in which first Woman Director was appointed in the company. The data in the table reveals that the earliest appointment of woman director in a company was in the year 1988 and the latest was in 2022.

Table 45

Descriptive Statistics About the Year in Which First Woman Director was Appointed Across Respondent Companies

Statistics	Minimum	Maximum	Median	Mode
Year in which First woman director was appointed in the organization	1988	2022	2014	2015

The median (M) year of 2014 suggests that 50% of women directors were appointed before 2014 and 50% of them were appointed after 2014. The mode year - 2015 suggests that majority of companies made their first move in appointment of women directors in the year 2015. It was due to Companies Act 2013 that mandated appointment of at least one-woman director in the publicly listed companies by 1st April 2015. This reflects that majority of the firms appointed women directors at least to fulfil the letter of the law.

Association Between Demographic Variables and Women Directors on Boards

Hypothesis testing to find the significant association between demographical variables like type of industry, Sector, age of the organization, board size of the organization and number of women directors on boards

H₀: There is no significant association between demographical variables like type of industry, Sector, age of the organization, board size of the organization and number of women directors on boards.

H₁: There is significant association between demographical variables like type of industry, Sector, age of the organization, board size of the organization and number of women directors on boards.

The table 46 presents the classification of 55 listed companies based on the type of industry (Manufacturing or Service) and the number of women directors on their boards were classified as having less than 2 women directors or 2 or more women directors. 59.5% (n=25) manufacturing companies had less than 2 women directors and 40.5% manufacturing companies had 2 or more women directors on board. While within service industry 61.5%

(n=8) companies had less than 2 women directors on board and 38.5% (n=5) had 2 or more women directors on boards.

Table 46

Crosstabulation Data Regarding Type of Industry and Number of Women Directors on Board Across Respondent Companies

			Women directors		Total
			Less than 2 women directors	2 or more women directors	
Type of Industry	Manufacturing	Count	25	17	42
		Expected Count	25.2	16.8	42.0
		% within Type of Industry	59.5%	40.5%	100.0%
		% within Women directors	75.8%	77.3%	76.4%
	Service	Count	8	5	13
		Expected Count	7.8	5.2	13.0
		% within Type of Industry	61.5%	38.5%	100.0%
		% within Women directors	24.2%	22.7%	23.6%
	Total	Count	33	22	55
		Expected Count	33.0	22.0	55.0
		% within Type of Industry	60.0%	40.0%	100.0%
		% within Women directors	100.0%	100.0%	100.0%

Overall, the data reveals that 60% companies had less than 2 women directors on board and 40% companies had 2 or more women directors on board. The distribution of women directors is across both the industry types is fairly consistent, with around 40% of companies on both the types of industries having 2 or more women directors. Within companies having fewer than two women directors, 75.8% belonged to Manufacturing sector, while 24.2% were in the

Service sector. For companies with two or more women directors, 77.3% were in Manufacturing and 22.7% were in Service.

Table 47 represents the Chi-Square test results regarding association between the type of industry (Manufacturing or Service) and the number of women directors on the board (less than 2 or 2 or more women directors).

Table 47

Chi-Square Test Regarding Association Between Type of Industry and Number of Women directors of Respondent Companies

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.017 ^a	1	.897		
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.017	1	.897		
Fisher's Exact Test				1.000	.581
Linear-by-Linear Association	.016	1	.898		
N of Valid Cases	55				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.20.

b. Computed only for a 2x2 table

The Pearson Chi-square value is 0.017, while p value was 0.897 at 5% significance level. Since $p > 0.05$ researcher fails to reject null hypothesis indicating that there was no significant relationship between type of industry and number of women directors on boards.

Table 48 presents the classification of companies based on the Sector (Ownership) (Private and PSU) and the number of women directors on their boards were classified as having less than 2 women directors or 2 or more women directors.

Table 48

Crosstabulation Data Regarding Sector (Ownership) and Number of Women directors on Board Across Respondent Companies.

Sector		Women directors		Total
		Less than 2 women directors	2 or more women directors	
(Ownership)	Private	Count	32	49
		Expected Count	29.4	49.0
		% within Sectors	65.3%	100.0%
		% within Women directors	97.0%	89.1%
	PSU	Count	1	6
		Expected Count	3.6	6.0
		% within Sectors	16.7%	100.0%
		% within Women directors	3.0%	10.9%
	Total	Count	33	55
		Expected Count	33.0	55.0
		% within Women directors	100.0%	100.0%

Within Private sector 65.3% (n=32) companies had less than 2 women directors on board while within PSU sector 16.7% (n=1) company had less than 2 women directors on board. While 34.5% (n=17) private sector companies had 2 or more women directors and 83.3% (n=5) companies in PSU had 2 or more women directors on board.

The majority of private sector companies (65.3%) had less than 2 women directors, while a significant proportion of PSUs (83.3%) had 2 or more women directors. The private sector companies make majority in the total sample, with 89.1% of all companies being private, and they also make up a large proportion of companies with less than 2 women directors (97%).

Table 49 presents the results of Fishers' exact test conducted to find the association between Sector (ownership) and number of women directors. Since the criteria of minimum expected value of 5 in all the cells is not fulfilled, we will consider Fisher's exact test.

Table 49

Fisher's Exact Test Regarding Association Between Sector (Ownership) and Number of Women directors Across Respondent Companies.

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.269 ^a	1	.022		
Continuity Correction ^b	3.438	1	.064		
Likelihood Ratio	5.363	1	.021		
Fisher's Exact Test				.033	.033
Linear-by-Linear	5.173	1	.023		
Association					
N of Valid Cases	55				
a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.40.					
b. Computed only for a 2x2 table					

Fisher's Exact Test shows a p-value of 0.033 which was less than the critical value 0.05, thereby indicating significant association between sector (ownership) and number of women directors on boards. PSUs appear to have a higher possibility of having 2 or more women directors compared to private sector companies.

Table 50 presents the classification of companies based on the age of organization (upto 50 years and more than 50 year) and the number of women directors on their boards were classified as having less than 2 women directors or 2 or more women directors.

67.6% (n=23) of the organizations having age of upto 50 years had less than 2 women directors, while 32.4% (n=11) had 2 or more women directors. Out of total companies having less than 2 women directors on board, 69.7% companies belong to upto 50 years old (younger) category & 30.3% belonged to older category. Companies with more than 50 years of establishment 47.6% (n=10) had less than 2 women directors, and 52.4% (n=11) companies had 2 or more women directors on board. Out of all the companies with 2 or more women directors, 50% are in "Upto 50 years" age group and 50% are in "More than 50 years" age group.

Table 50

Crosstabulation Data Regarding Age of The Organization and Number of Women Directors on Board Across Respondent Companies

			Women directors		Total
			Less than 2 women directors	2 or more women directors	
Age of the organization	Upto 50 years	Count	23	11	34
		Expected Count	20.4	13.6	34.0
		% within Age of the organization	67.6%	32.4%	100.0%
		% within Women directors	69.7%	50.0%	61.8%
	More than 50 years	Count	10	11	21
		Expected Count	12.6	8.4	21.0
		% within Age of the organization	47.6%	52.4%	100.0%
		% within Women directors	30.3%	50.0%	38.2%
	Total	Count	33	22	55
		Expected Count	33.0	22.0	55.0
		% within Age of the organization	60.0%	40.0%	100.0%
		% within Women directors	100.0%	100.0%	100.0%

The cross-tabulation data suggests that older organizations (more than 50 years old) (52.4%) are more likely to have 2 or more women directors on the board compared to younger organizations (32.4%). This indicates that more established companies had accepted gender diversity on their boards to a greater extent compared to the younger companies (upto 50 years old).

Table 51 presents the Chi-Square test results regarding association between the age of organizations (upto 50 years old and more than 50 years old) and the number of women directors on the board (less than 2 or 2 or more women directors).

Table 51

Chi-Square Test Regarding Association Between Age of The Organization and Number of Women Directors Across Respondent Companies.

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.170 ^a	1	.141		
Continuity Correction ^b	1.415	1	.234		
Likelihood Ratio	2.161	1	.142		
Fisher's Exact Test				.166	.117
Linear-by-Linear Association	2.130	1	.144		
N of Valid Cases	55				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.40.

b. Computed only for a 2x2 table

The Pearson Chi-square value is 2.170, while p value was 0.141 at 5% significance level. Since $p > 0.05$ researcher fails to reject null hypothesis indicating that there was no significant association between age of the organizations and women directors on boards.

Table 52 presents the classification of companies based on the board size of organization (less than 8 and 8 or more board members) and the number of women directors on their boards were classified as having less than 2 women directors or 2 or more women directors.

84.6% (n=22) firms with less than 8 board members had less than 2 women directors on board, while 15.4% (n=4) firms with less than 8 board members had 2 or more women directors on board. While 37.9% firms (n=11) with 8 or more board members had less than 2 women directors on board and 62.1% firms (n=18) with 8 or more board members had 2 or more board members on board.

Out of total organizations having 2 or more women directors on board, majority belonged to the larger board size companies i.e. 81.8%, while out of total organizations having less than 2 women directors on boards, majority belonged to smaller board size companies (less than 8 members) i.e. 84.6%.

Table 52

Crosstabulation Data Regarding Board Size of The Organization and Number of Women Directors on Board Across Respondent Companies.

			Women directors		Total
			Less than 2 women directors	2 or more women directors	
Board Size	Less than 8	Count	22	4	26
		Expected Count	15.6	10.4	26.0
		% within Board Size	84.6%	15.4%	100.0%
		% within Women directors	66.7%	18.2%	47.3%
	8 or more	Count	11	18	29
		Expected Count	17.4	11.6	29.0
		% within Board Size	37.9%	62.1%	100.0%
		% within Women directors	33.3%	81.8%	52.7%
	Total	Count	33	22	55
		Expected Count	33.0	22.0	55.0
		% within Board Size	60.0%	40.0%	100.0%
		% within Women directors	100.0%	100.0%	100.0%

Thus, the crosstabulation data suggest that companies with larger board size (8 or more) tend to have more women directors on boards compared to companies with smaller board size (less than 8).

Table 53 presents the Chi-Square test results regarding association between the board size of organizations (less than 8 and 8 or more) and the number of women directors on the board (less than 2 or 2 or more women directors).

Table 53

Chi-Square Test Regarding Association Between Board Size of The Organization and Number of Women Directors Across Respondent Companies

	Value	df	Asymptotic Significance (2-sided)	Exact (2-sided)	Sig. (1-sided)
Pearson Chi-Square	12.449 ^a	1	.000		
Continuity Correction ^b	10.580	1	.001		
Likelihood Ratio	13.210	1	.000		
Fisher's Exact Test				.001	.000
Linear-by-Linear Association	12.223	1	.000		
N of Valid Cases	55				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.40.

b. Computed only for a 2x2 table

The Pearson chi-square test value was $\chi^2=12.449$ and p-value of $0.000 < 0.05$ indicating a statistically significant association between board size and the number of women directors on the board. The results indicate that larger boards (8 or more) are more likely to include more women directors on their board compared to companies with smaller board size (less than 8).

The Chi-square and fisher' exact test results on demographic characteristics of companies like type of industry, sector (ownership), age of the organization and board size of the organization reveals that researcher fails to reject null hypothesis for type of industry (manufacturing or service) and age of organizations (upto 50 years and more than 50 years age) indicating no association between type of industry of the companies and number of women directors and there was no association between age of the organizations and number of women directors on boards.

While the null hypothesis was rejected for demographic variable -sector ownership (Private and PSU) & board size indicating significant association between sector ownership and number of women directors and significant association between board size and number of women directors.

Most Recent Appoint of Women Directors on Boards

The table 54 represents the frequency distribution about the timing of the most recent appointments of women directors on the boards of 55 listed companies.

Table 54

Frequency Distribution of About the Most Recent Appointment of Women Directors on The Boards of The Listed Companies Across Respondent Companies

		Frequency(n)	Percent
Valid	Within less than 1 year from	19	34.5
	Within 2 years from the date	12	21.8
	Within 7 years from the date	5	9.1
	Within 3 years from the date	4	7.3
	Within 4 years from the date	4	7.3
	Within 8 years from the date	4	7.3
	more than 9 years from the date	3	5.5
	Within 5 years from the date	2	3.6
	Within 6 years from the date	2	3.6
Total		55	100.0

34.5% (n=19) companies appointed women directors within the last year, indicating that a significant portion of companies have recently added women to their boards, while 21.8% (n=12) companies appointed women directors within 2 years from the date. It means more than half (56.3%) companies appointed women directors in last 2 years. 74.5% (n=41) companies have appointed women directors within 5 years from date. While 25.5% (n=14) companies it's been more than 5 years since the last women directors been appointed on their company boards.

Board Meetings held in the listed companies during FY 2022-23

Table 55

Frequency Distribution of Board Meetings Held During FY 2022-23 Across Respondent Companies

No. of Board Meetings	Frequency	Percentage
4	15	27
>4	40	73

Table 55 represents the total board meetings held during 2022-23. In majority of the companies 73% (n=40) more than 4 board meetings were held in the companies, while only 27% (n=15) companies had 4 board meetings during 2022-23.

Number of Board Meetings Attended by The Respondents

Table 56

Frequency Distribution of Board Meetings Attended by Company Secretaries During FY 2022-23 Across Respondent Companies

		Frequency	Percent
Valid	All	55	100.0

Table 56 represents the total board meetings attended by company secretaries (respondents) of the companies. 100% respondents attended all the board meetings during FY 2022-23. This indicates that company secretaries are important link to understand the structure and working of corporate boards, as they observe all the activities that takes place on the boards.

Table 57 represents how the board evaluation is carried out for the entire board and individual directors of the organization

Table 57

Frequency Distribution of Evaluation of Board Members

Evaluation of Board members	n	%
As per company policy	18	44%
Independent Directors & Board	10	24%
As per statutory provisions of Companies Act 2013 and SEBI guidelines	6	15%
Nomination and Remuneration Committee	4	10%
External Agency	3	7%
Total	41	100%

Out of 55 respondents only 41 respondents answered the questions remaining 14 respondents (25%) did not answer to the question as they felt reluctant about the same. While 44% of those who respondent (n=14) said that the evaluation of board members was done as per company policy like using 360-degree appraisal system, based on company's performance, through

detailed evaluation forms of the companies etc., 24% respondents said that independent directors were responsible for doing the evaluation of other board members and other board members did evaluation for independent directors. 15% respondents (n=6) said that evaluation of directors is done as per statutory provisions of Companies Act 2013 and SEBI guidelines, while 10% (n=4) respondents said Nomination and Remuneration Committee, 7% (n=3) respondents said their board evaluation is done by external agencies like Deloitte and others.

Reasons for Appointment of Women directors on Board of Companies

With the aim to understand the major reason for appointment of women directors on boards in Indian companies, a question was asked to the respondents (n=55) on 5-point Likert scale (1- Strongly Disagree to 5- Strongly Agree) rating items.

Table 58 reveals the descriptive analysis (Mean and Standard Deviation) of the respondent companies about reasons for the appointment of women directors in the publicly listed companies.

Table 58

Descriptive Statistics on Reason for Appointing Women Directors on Board Across Respondent Companies

Reasons	Mean	Std. Deviation	Standard error of mean
To fulfil Legal Requirements	4.29	1.100	0.148
To take advantage of their innovative ideas	4.29	0.762	0.103
Because they can contribute constructively	4.24	0.860	0.116
Because they are trust worthy	3.96	0.981	0.132
Because of their financial acumen	3.82	1.056	0.142

The highest mean with standard deviation ($\bar{x}$ =4.29, SD =1.10) was found for a reason - to fulfil legal requirements of Companies Act 2013 and SEBI's listing agreement. This finding supports the finding of the previous question that most of the women directors were appointed in the year 2015 due to mandatory requirement of Companies Act, 2013. Also, another reason- to take the advantage of innovative ideas of women had same mean ($\bar{x}$ =4.29, SD =0.762). The second highest reason was women directors were appointed because they contribute constructively in the company with mean ($\bar{x}$ =4.24, SD =0.860). The reason that because they are trust worthy had a mean of 3.96 with SD 0.981. The lowest mean scores were for the reason – because of the financial acumen of women directors i.e. ($\bar{x}$ =3.82, SD =1.056).

Table 59 reflects Shapiro-Wilk test on reasons for appointment of women directors on board to check the normality of the data.

Table 59

Normality Test on The Reasons or Appointment of Women Directors on Boards Across Respondent Companies

Reasons for appointment of women directors	Shapiro-Wilk		
	Statistic	df	Sig.
To fulfil legal requirements	0.687	55	0.00
To take advantage of their innovative ideas	0.769	55	0.00
Because they are trust worthy	0.826	55	0.00
Because of their financial acumen	0.854	55	0.00
Because they can contribute constructively	0.779	55	0.00

Since the p value was 0.00 less than 0.05 for each reason, it means that each reason significantly deviates from the normal distribution. Since the data is not normally distributed non-parametric test is used to test the significance difference between the mean scores.

Hypothesis testing of significant difference in Means

H0: There is no significant difference in the mean scores value of all the items.

H1: There is significant difference in the mean scores value of all the items

Since the data was not normally distributed non-parametric test Friedman Test was conducted to check if there was significant difference in the mean value of all the items or not. The Friedman test is generally used when the assumptions of normality is not met or to compare three or more groups when the dependent variable is ordinal.

Table 60 reflects the result of Friedman Test. Friedman Test is where the same subjects are measured under different conditions. Here the same set of respondents Across Respondent Companies rated different reasons for appointment of women directors in 5- Point Likert Scale.

Table 60

Friedman Test on The Mean Values of Reasons for The Appointment of Women Directors on Boards Across Respondent Companies

Ranks	
	Mean Rank
To fulfil legal requirements	3.29
To take advantage of their innovative ideas	3.27
Because they are trust worthy	2.67
Because of Their financial Acumen	2.52
Because they can contribute constructively	3.25

Test Statistics ^a	
N	55
Chi-Square	24.136
Df	4
Asymp. Sig.	0.000

A Friedman Test was conducted to evaluate differences in the mean scores among the reasons for appointment of women directors. The result indicated statistically significant difference in mean scores among the reasons of appointment, (Chi-Square = 24.136, $p = 0.000 < 0.05$). Thus, researcher rejects null hypothesis and accepts the alternative hypothesis that there was significant difference between the mean value of all the items. The mean ranks for the reasons were as follows: To fulfil legal requirements has the highest mean rank (3.29), followed by to take advantage of innovative ideas of women directors (3.27), because they contribute constructively (3.25), because they are trustworthy (2.67), and because of their financial acumen has the lowest mean rank (2.52).

These, findings suggest that the respondents clearly differentiate between the reasons, rather than treating them as equally important where respondents perceive legal compliance as primary reason for the appointment of women directors on board and their financial acumen as the last reason. Further post-hoc test was conducted using Wilcoxon Signed Rank Test to find out which mean score have significant difference.

Table 61 represents the Wilcoxon Signed Rank Test for the mean scores of all the reasons of appointing women directors on boards in listed Indian Companies. The Z value in the table

represents the test statistic for each comparison where Positive or negative value specifies the direction of the difference between the two compared groups lies.

Table 61

Wilcoxon Signed Rank Test on The Reasons for Appointment of Women Directors on Board Across Respondent Companies

Comparison Statement 1	Comparison Statement 2	Z-value	Asymp. Sig. (2-tailed)	Interpretation
Innovative Ideas	Legal Requirements	-0.245 ^b	0.807	Not significant (Z = -0.25, p = .807)
Trustworthy	Legal Requirements	-1.926 ^b	0.054	Not significant (Z = -1.93, p = .054)
Constructive Contribution	Legal Requirements	-0.469 ^b	0.639	Not significant (Z = -0.47, p = .639)
Constructive Contribution	Innovative Ideas	-0.21 ^b	0.834	Not significant (Z = -0.21, p = .834)
For Financial Acumen	Trustworthy	-1.355 ^b	0.176	Not significant (Z = -1.36, p = .176)
For Financial Acumen	Legal Requirements	-2.28 ^b	0.023	Significant (Z = -2.28, p = .023)
Trustworthy	Innovative Ideas	-2.56 ^b	0.01	Significant (Z = -2.56, p = .010)
Constructive Contribution	Trustworthy	-2.525 ^c	0.012	Significant (Z = -2.53, p = .012)
For Financial Acumen	Innovative Ideas	-3.391 ^b	0.001	Highly significant (Z = -3.39, p = .001)
Constructive Contribution	For Financial Acumen	-3.454 ^c	0.001	Highly significant (Z = -3.45, p = .001)

b. Based on positive ranks

c. Based on negative ranks

There was no significant difference between mean scores of taking advantage of innovative ideas and fulfil legal requirements (Z = -0.25, p = .807). There was no significant difference between mean scores of women directors are trustworthy and women directors' appointment is to fulfil legal requirement (Z=-1.96, p=0.054). Similarly, there was no significant difference between mean scores of women directors' constructive contribution and fulfilling legal requirements (Z=-0.47, p=0.639), between women directors' constructive contribution and women directors' innovative ideas (Z=-0.21, p=0.834) and between for their financial acumen and women directors' being trustworthy (Z=-1.36, p=0.176).

A significant difference was found between for their financial acumen and appointment of women directors to fulfil legal requirement ($Z = -2.28$, $p = .023$), indicating that respondents believe women are appointed mostly to fulfil legal requirement rather than due to for their financial acumen. A significant difference was found between women directors being trustworthy and taking advantage of innovative ideas of women directors ($Z=-2.56$, $p=0.10$) indicating that that respondents view trustworthiness as less important reason than taking advantage of innovative ideas in the inclusion of women on boards.

Highly Significant difference was found between reasons of women directors' financial acumen and taking advantage of innovative ideas of women directors ($Z=-3.39$, $p=0.001$) indicating that respondents look towards taking advantage of innovative ideas as more important factor than their financial acumen. While there were significant differences in mean scores of women directors' constructive contribution and women directors being trustworthy ($Z=-2.53$, $p=0.012$) highlighting that women directors' constructive contribution as motivating reason in their appointment on company board than the women directors being trustworthiness. While high significant difference was found between women directors' constructive contribution and for their financial acumen ($Z=-3.45$, $p=0.001$), suggesting that respondents felt women directors' constructive contribution stronger motivation than their financial acumen.

These results provide a deeper understanding of the factors that play important role in the appointment of women directors on the boards. These results reflect compliance with legal requirements is still a major reason in appointment of women directors however, it is being supplemented by a growing recognition of women's unique contributions to corporate board.

Effective Measures in Increasing Representation of Women Directors on Board

Table 62 presents the data with respect to different measures that are effective in increasing representation of women directors on board. Respondents were asked to rank the measures in order (1 to 6) which they felt most effective. Rank 1 reflective most effective and Rank 6 the least effective in order.

Out of 55 respondents only 81.8% respondents (45) respondent to the question. Here means scores were derived for all the measures ranked from 1 to 6 in order of preference by the respondents.

Table 62*Effective Measures in Increasing Representation of Women Directors on Board*

Most effective actions in increasing women representation on company boards	Score	Rank
Voluntary Quotas	4.00	Rank 5
Creation of Database	3.87	Rank 4
Mentoring and creating network of women directors	3.00	Rank 2
Mandatory Quotas	2.38	Rank 1
Commitment of Investors to encourage and push companies to recruit women directors on board	3.40	Rank 3
Male directors' commitment and support to mentor women candidates for the role of director	4.36	Rankl 6

Here the measure that had least mean score was ranked 1 and the highest mean score is ranked as last in the preferential order by the respondents. The data reveals that most of the respondents have ranked mandatory quota mean score (2.38) as Rank 1 considering as the most effective measure in increasing representation of women directors on boards, followed by mentoring and creating network of women directors with mean score of 3.00. Commitment of Investors to encourage and push was selected as 3rd most effective measures in increasing women representation on board with mean of 3.40, followed by creation of database with mean score of 3.87, voluntary quotas were ranked as 5 with mean score of 4 and the last effective measure that was ranked 6 by most of the respondents was Male directors' commitment and support to mentor women candidates for the role of director. Thus, the data reveals that mandatory quotas and mentorship programmes for women plays an important role in increasing representation of women directors on boards.

Appointment, Participation and Mentorship of Women directors

Different questions were asked to respondents with respect to appointment of women directors on boards, participation of women directors in board discussions and mentorship programs provided by the organization to women at middle management level.

Table 63 presents the descriptive statistics mean, median, standard deviation, skewness, kurtosis and Shapiro- wilk test for normality of each statement.

Table 63

Descriptive Statistics and Normality Test on Perception of Respondents on Appointment, Participation and Mentorship of Women directors Across Respondent Companies

	Mean	M	Sd	Skewness Value	Z	Kurtosis Value	Z	Shapiro- Wilk
Women board members equally participate in important board discussions	4.53	5	0.63	-1.01	-3.14	0.00	0.00	0.000
All board members actively participate in important board discussions.	4.51	5	0.74	-1.44	-4.48	1.50	2.37	0.000
Women directors get chance to deliberate on agenda items	4.49	5	0.72	-1.38	-4.28	1.64	2.60	0.000
Men board members come to meetings well-prepared	4.45	5	0.69	-0.89	-2.76	-0.39	-0.61	0.000
Women board members come to meetings well-prepared	4.45	5	0.74	-1.26	-3.90	1.10	1.74	0.000
Women CEO/ chairperson makes difference in appointment women/ as board member/s.	3.67	4	1.07	-0.70	-2.18	0.27	0.43	0.000
Your company provide Mentorship to women at middle management level	3.60	4	1.10	-0.61	-1.90	-0.07	-0.12	0.000
Women directors are more workaholic	3.36	3	0.85	0.54	1.68	-0.22	-0.35	0.000
Women director easily agree with the decisions of other directors	2.64	3	1.08	0.32	1.01	-0.38	-0.61	0.000
Appointment of women directors dominated by men board members	2.60	3	1.23	0.20	0.61	-0.82	-1.30	0.000
Women directors voice is not heard in the board meetings	2.13	2	1.11	0.93	2.89	0.51	0.81	0.000

The perception of respondents on ‘women board members equally participate in all important board discussions in your company’ mean was ($\bar{x}$ =4.53) and median was M= 5 which indicates that most of the respondents strongly agree with the statement. ‘All board members actively

participate in important board discussions’ had mean score of $\bar{x} = 4.51$ and $M=5$, showing strong agreement towards the statement. While the perception on whether ‘women directors get a chance to deliberate on agenda items in the company’ scored mean of $\bar{x} = 4.49$ and $M=5$, showing strong agreement of respondents towards the same. While the perception of ‘men board members coming well prepared in the meetings’ and ‘women board members coming well prepared in the meeting’ had same mean score of $\bar{x} = 4.45$, $M=5$ indicating agreement with the statements and no difference with the preparation of men or women board members for meetings. Perception on whether the ‘women CEO or Chairperson makes a difference in considering women for board appointments’ had mean score of $\bar{x} = 3.67$, $M=4$ The Score indicate neutral to agreement with the statement. Respondents’ perception on whether their ‘company provides mentorship to women at middle management level to nurture them for future directorship role’ in their company showed mean score of $\bar{x} = 3.60$, $M=4$, indicating neutrality to agreement.

Respondents had neutral response when asked about ‘the women directors being more workaholic than their male counterparts’ with mean score of $\bar{x} = 3.36$ and $M=3$. While respondents were in disagreement about ‘women directors easily agree with decisions of other directors’ $\bar{x} = 2.64$, $M=3$, ‘appointment of women directors dominated by men board members’ $\bar{x} = 2.60$, $M=3$ and ‘women directors’ voices are not heard during board meetings’ with mean score $\bar{x} = 2.13$ and $M=2$. Shapiro-Wilk test was conducted to check the normality of the data. Since the p value for the all the statements is $0.000 < 0.05$, it can be confirmed that the data is not normally distributed and non-parametric test is suitable to check the significant difference between the mean values of all the statements.

Hypothesis testing to check the significant difference in the mean value of each statement

H₀: There is no significant difference in the mean values

H₁: There is significant difference in the mean values

Table 64 presents the results of Friedman test for 55 respondents.

The highest-ranked statements reflect the perceptions that women board members are equally participating in important discussions (mean rank = 8.13) and women directors get chance to deliberate on agenda items (mean rank = 8.03). This indicates a generally positive view of women’s participation in board activities in the companies surveyed.

Table 64

Friedman Test to Check the Significant Difference Between the Mean Values Across Respondent Companies

Ranks		Mean Rank
Women board members equally participate in all the important board discussions in your company.		8.13
All board members actively participate in important board discussions in your company.		8.10
Do women directors get chance to deliberate on agenda items?		8.03
In your company Male board members come to meetings well-prepared and remain focused.		8.00
In your company women board members come to meetings well-prepared and remain focused.		7.87
Having a women CEO or chairperson makes difference in considering female/s for appointment/s as board member/s.		5.92
Does your company provide Mentorship to women at middle management level to nurture them for the role of director in your company?		5.44
Women directors are more workaholic than their male counter parts.		4.88
In your company is the appointment of women directors dominated by male board members?		3.57
Do you agree that women director easily agree with the decisions of other directors?		3.51
Do you feel that women directors voice is not heard during the board meetings?		2.55
Test Statistics^a		
N	55	
Chi-Square	284.882	
Df	10	
Asymp. Sig.	.000	
a. Friedman Test		

Women directors' voices not being heard during board meetings (mean rank = 2.55), implying that respondents feel that women's inputs are actually considered and given importance while taking any board decisions. Appointment of women directors being dominated by male board members (mean rank = 3.57), indicated that the male directors do not dominate in any way during the appointment of women directors on board. Women directors agreeing easily with

other board members (mean rank = 3.51), which indicated that women directors did not easily agree with the decisions of other board members, instead they give their own opinions during board discussions and do consider all the aspects before agreeing to any discussions. The Friedman Test results output $\chi^2 = 284.882$ and the p value is 0.000. Since $p < 0.05$, null hypothesis is rejected and alternative hypothesis is accepted. This means there is a statistically significant difference in the mean values.

Perception about Women Directors Working in an Organization

This dataset represents the perceptions and opinions of respondents regarding the involvement and impact of women directors on company boards in India. The data was collected using a 5 Point Likert scale (5-Strongly Agree to 1 Strongly Disagree) to measure the agreement level with various statements related to women's qualifications, board dynamics, cultural obstacles, attendance in the board meetings and representation.

Table 65, demonstrates result of descriptive analysis on views about women directors and their working in an organization.

Table 65

Descriptive Statistics on Views About Women directors and Their Working in an Organization Across Respondent Companies.

Views About Women Directors and Their Working in Organization	Mean	Std. Deviation	Standard error
The women board members are equally qualified as their men counterparts.	4.44	0.66	0.089
Gender Diversity at board leads to good corporate governance practices.	4.27	0.71	0.095
Board dynamics change when there are greater number of women directors.	3.69	0.90	0.121
Cultural obstacles lead to less representation of women in Indian boards.	3.42	1.12	0.150
Quota system is needed to increase representation of women on company boards.	3.38	1.24	0.17
Attendance of women board members in the meeting is higher than their men counterparts.	3.29	0.90	0.120
Having 1- or 2-women directors does not make any difference in board decisions.	2.87	1.04	0.139

From Table 65 it can be derived that the highest mean with SD ($\bar{x} = 4.44$, SD = 0.66) was found about the view that women directors are equally qualified as their men counterparts, followed by the view that gender diversity on the boards leads to good governance practices having mean with SD ($\bar{x} = 4.27$, SD = 0.71). The means reflect that the respondents are in agreement with the statements. Mean for Change in board dynamics with great number of women directors is 3.69 which is near to agreement. While perception with related to cultural obstacles, increase in quota system, and attendance of women board members had means 3.42, 3.38 and 3.29 indicating less than agreement and relatively neutral towards the same. The lowest mean with SD ($\bar{x} = 2.87$, SD = 1.04) for the view that having one or two women directors did not make any difference in board decisions.

Hypothesis testing to check the significant difference in the mean value of each statement

H0: There is no significant difference in the mean value of all the items.

H1: There is significant difference in the mean value of all the items.

Table 66

Overall Descriptive Statistics, Normality and Reliability Test about Perception of Women directors and Their Working in Organization Across Respondent Companies

			Skewness		Kurtosis		Shapiro-Wilk	Cronbach's Alpha
			Std. Statistic	Std. Error	Std. Statistic	Std. Error		
Mean	Median	Deviation						
3.62	3.57	0.59	0.760	0.322	0.232	0.634	0.006	0.725

Table 66 presents the overall descriptive statistics, normality test and reliability of 55 respondents where overall mean $\bar{x}=3.62$, MD=3.57 and SD =0.59. The value of $\bar{x}=3.62$ and MD=3.57 is not same but nearby showing that the data was not normally distributed.

$$\text{z-score of kurtosis} = \frac{K}{SE_k} = \frac{0.232}{0.634} = 0.365$$

$$\text{z-score of skewness} = \frac{Sk}{SE_s} = \frac{0.760}{0.322} = 2.360$$

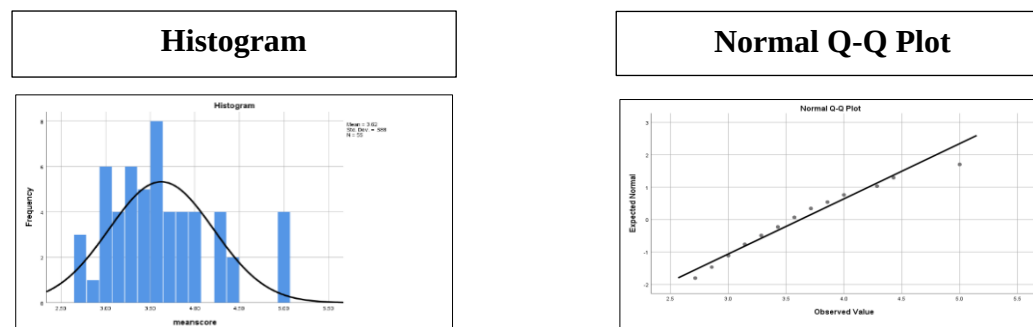
The z-score for kurtosis (0.365) within the desired range of ± 1.96 . While z-score for skewness (2.360) is not within the desired range of ± 1.96 . Thus, the sample has passed the normality assumption for kurtosis but not passed for skewness. Also, when the normality test conducted

using Shapiro Wilk test it confirmed the data was not normally distributed, as the test value ($p=0$) was less than the significant value 0.05, rejecting null hypothesis.

Figure 10 presents Histogram and Normal Q-Q plots about the perceptions of women directors' working.

Figure 10

Histogram and Normal Q-Q Plots about Perceptions of Women directors' Working Across Respondent Companies



From the figures it is clearly visible that the histogram is skewed towards right and in the Normal Q-Q plots the observed values are slightly away from the expected values with some extremes in the top and bottom. This shows that the data was non-normally distributed. Therefore, a non-parametric test was used to test the significant differences in the mean scores of all the items about women directors and their working in an organization.

Table 67 presents the results of a Friedman test; it is a non-parametric statistical test used to compare more than two related groups or conditions.

Here the test was applied to compare responses (mean ranks) for different statements regarding perceptions of women directors on boards of listed companies in India. Higher mean ranks for perceptions like gender Diversity at board leads to good corporate governance practices (5.25), female board members are equally qualified as their male counterparts (5.51), and board dynamics change when there are more number of women directors on board (4.15) suggest that respondents view women are equally qualified as their male counterparts and gender diversity on board promotes good corporate governance.

Table 67

Friedman Test on Perception about Women directors' Working in The Organization Across Respondent Companies

Ranks	
	Mean Rank
Gender Diversity at board leads to good corporate governance practices.	5.25
The female board members are equally qualified as their male counterparts.	5.51
Do the board dynamics change when there are more number of women directors?	4.15
Cultural obstacles lead to less representation of women in Indian boards.	3.64
Quota system is needed to increase representation of women on company boards.	3.60
Attendance of female board members in the meeting is higher than their male counterparts.	3.30
Having 1 or 2 female directors does not make any difference in board decisions.	2.56
Test Statistics^a	
N	55
Chi-Square	114.367
Df	6
Asymp. Sig.	.000

While mean rank for statements like Cultural obstacles lead to less representation of women in Indian boards (3.64) suggested that respondents somewhat acknowledge cultural barriers as a factor contributing to the underrepresentation of women in Indian boards, Quota system is needed to increase representation of women on company boards (3.60) indicate that respondents view quotas as necessary but do not view it as highly pressing or permanent solution for increasing gender diversity on boards.

Attendance of female board members in the meeting is higher than their male counterparts (3.30) indicated that men and women directors' attendance is almost aligned and Having

1 or 2 female directors does not make any difference in board decisions. (2.56) is on the lower side indicated that respondents view having even 1 woman director on board makes difference in board decisions.

Since the p value was 0.000 less than the significant value 0.05, researcher rejected the null hypothesis and accepted the alternate hypothesis that there was significant difference in the mean values of all the items. Further post-hoc test was performed A post-hoc test was performed after a Friedman test to determine which items groups differ from each other when a statistically significant result was found. Wilcoxon Signed Rank Test was used as a post-hoc test to find the difference between each group.

Table 68 presents the result of a Wilcoxon Signed-Rank Test, which is a non-parametric statistical test used to compare paired samples, when the data is non-normally distributed. Table reflects the pair comparison of all the 7 items paired with each other, forming 21 pairs. The table explore which pair have significant difference in the mean value and which pair does not have significant difference in their mean values.

The results shows that there are significant differences in perceptions about most of the statements. However, comparison of the means values of Board dynamics - Cultural obstacles, Women attendance - Cultural obstacles, Quota system - Cultural obstacles, Women qualifications - Gender diversity, Quota system-women attendance does not show any significant difference as the p value is less than 0.05. There was significant difference between Gender diversity on boards leads to good corporate governance and cultural obstacles leads to less representation of women in Indian boards ($Z=-4.727$, $p=0.000$), p value less than the critical value 0.05 indicating that respondents believe gender diversity on boards leads to good corporate governance compared to their perception that cultural obstacles lead to less representation of women in Indian boards.

There was significant difference between women board members being equally qualified as their men counterparts and cultural obstacles leading to less representation of women on Indian boards ($Z=-4.935$, $p=0.000$), p value less than the critical value 0.05 indicating that respondents' belief that women directors are equally qualified as their men counterparts and not the barrier in their representation on board however the cultural obstacles lead to less representation of women in Indian boards is a stronger factor. When comparing the perception of having 1 or 2 women directors does not make any difference

in board decisions with Cultural obstacles, leading to less representation of women on boards there were more negative ranks, meaning respondents disagree with the notion that having a few women directors doesn't impact board decisions. This difference is significant ($Z = -2.970$, $p = 0.003$).

Table 68

Wilcoxon Signed Rank Test for Perceptions of Women Directors Across Respondent Companies

Items Compared	Z-Value	p Value	Significant (Yes/No)
Gender diversity - Cultural obstacles	-4.727 ^b	0	Yes
Women qualifications - Cultural obstacles	-4.935 ^b	0	Yes
1-2 women directors - Cultural obstacles	-2.97 ^c	0.003	Yes
1-2 women directors - Gender diversity	-5.225 ^c	0	Yes
Board dynamics - Gender diversity	-3.968 ^c	0	Yes
Women attendance - Gender diversity	-5.106 ^c	0	Yes
Quota system - Gender diversity	-4.272 ^c	0	Yes
1-2 women directors - Women qualifications	-5.646 ^c	0	Yes
Board dynamics - Women qualifications	-4.253 ^c	0	Yes
Women attendance - Women qualifications	-5.429 ^c	0	Yes
Quota system - Women qualifications	-4.678 ^c	0	Yes
Board dynamics - 1-2 women directors	-4.33 ^b	0	Yes
Women attendance - 1-2 women directors	-3.104 ^b	0.002	Yes
Quota system - 1-2 women directors	-2.702 ^b	0.007	Yes
Women attendance - Board dynamics	-2.241 ^c	0.025	Yes
Quota system - Board dynamics	-2.066 ^c	0.039	Yes
Board dynamics - Cultural obstacles	-1.552 ^b	0.121	No
Women attendance - Cultural obstacles	-0.822 ^c	0.411	No
Quota system - Cultural obstacles	-0.289 ^c	0.772	No
Women qualifications - Gender diversity	-1.795 ^b	0.073	No
Quota system - Women attendance	-0.769	0.442	No

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks

c. Based on positive ranks

There was significant difference in the perception of having 1 or 2 women directors does not make any difference in board decisions and gender diversity on board leads to good corporate governance ($Z=-5.225$, $p=0.000$) $p < 0.05$, indicating that indeed gender diversity on board is necessary for good corporate governance. Similarly, there was significant difference in Board dynamics change when there are greater no. of women directors and gender diversity on board leading to good corporate governance ($Z=-3.968$, $p=0.000 < 0.05$), attendance of women directors is more than their men counterparts and gender diversity on board leading to good corporate governance ($Z=-5.106$, $p = 0.000 < 0.05$), quota system needed to increase in women directors on board and gender diversity on board leading to good corporate governance ($Z=-4.272$, $p = 0.000 < 0.05$) suggesting that gender diversity on boards leads to good corporate governance as stronger factor than others. Having 1 or 2 Women directors does not make a Difference vs. women Board Members Are Equally Qualified had significant difference ($Z=-5.646$, $p=0.00 < 0.05$) strongly indicates that even if women are equally qualified, having only 1 or 2 women directors is not seen as sufficient to make a difference in board decisions, suggesting the need for more substantial women representation.

Various other pair comparisons having significant difference were board dynamics-women directors' qualifications ($Z=-4.253$, $p=0.00 < 0.05$), women directors' attendance & their qualifications ($Z=-5.429$, $p=0.00 < 0.05$), Quota system and women directors' qualifications ($Z=-4.678$, $p=0.00 < 0.05$), board dynamics and 1-2 women directors not making any difference (-4.33 , $p=0.00 < 0.05$), women directors' board meeting attendance is higher than men directors and 1-2 women directors does not making any difference (-3.104 , $p=0.002 < 0.05$), quota system and 1-2 women directors not making any difference in quota system ($Z=-2.702$, $p=0.007 < 0.05$). women directors' attendance and board dynamics ($Z=-2.241$, $p=0.025 < 0.05$), quota system and board dynamics ($Z=-2.066$, $p=0.039 < 0.05$). Wilcoxon signed rank test for other pairs like 'board dynamics change when there are more number of women directors' and 'cultural obstacles lead to less number of women directors' and 'cultural obstacles lead to less representation of women on Indian boards', 'board meeting attendance of women directors higher than the men directors' and 'cultural obstacles', 'Quota system needed to increase representation of women on company boards' and 'cultural obstacles', 'women directors equal qualification as male counterparts' and 'gender diversity leading to good corporate governance', 'quota system' and 'board meeting attendance of women directors' was not significant as p value was greater than critical value 0.05.

Thus, there was very strong evidence that respondents believe gender diversity leads to better corporate governance practices, overshadowing cultural obstacles leading to less representation of women directors on board. While cultural obstacles are considered as a factor resulting in under representation of women directors on boards, however the results also indicate that respondents perceive quota on board as good measure for enhancing women representation on boards.

Women Directors' Contribution in Different Areas

Table 69 presents the descriptive statistics on perceptions of women directors' capabilities and contributions in decision-making process in different areas of the company. The data includes the mean, median, standard deviation, skewness, and kurtosis for each area, along with Z-scores for skewness and kurtosis.

Table 69

Descriptive Statistics about the Views on Capabilities of Women Directors' Contribution in Decision Making Process in Different Areas Across Respondent Companies

	Mean	M	Sd	Skewness		Kurtosis	
				Value	Z	Value	Z
Corporate Governance	4.44	5	0.66	-0.76	-2.36	-0.45	-0.71
CSR	4.42	4	0.63	-0.61	-1.88	-0.53	-0.84
Board related matters	4.31	4	0.72	-0.85	-2.65	0.65	1.03
HR	4.24	4	0.79	-1.38	-4.29	3.71	5.85
Finance	4.18	4	0.70	-0.26	-0.82	-0.88	-1.38
Policy	4.16	4	0.71	-0.57	-1.76	0.30	0.47
Strategy	4.11	4	0.79	-0.44	-1.35	-0.55	-0.86
Operations	3.96	4	0.86	-0.29	-0.91	-0.82	-1.29
Marketing	3.95	4	0.78	-0.15	-0.46	-0.73	-1.16
Risk Management	3.95	4	0.83	-0.92	-2.86	1.92	3.02

The respondents rated women directors highly in the area of corporate governance, with a mean value of 4.44, and Median=5 indicating strong positive contributions by women directors in the area of Corporate Governance. The negative skewness suggests that more respondents rated women directors on the higher end (closer to 5=Strongly Agree). The kurtosis value is slightly negative, indicating a flatter distribution than normal.

CSR is another area where respondents perceived higher contribution of women directors with mean value 4.42 and Median=4. The skewness value -0.61 (Z=-1.88) shows more respondents rated women towards higher scores. The mean value of 4.31 and median=4, in board related issues also showed that respondents were in agreement that women directors were very much capable in the contribution in the particular field.

. Women directors are highly valued in HR with the mean value = 4.24, Median =4 with the most significant negative skewness of -1.38(Z=-4.29) among all areas, indicating a strong preference for high ratings. The large positive kurtosis= 3.71 (Z=5.85) shows a highly peaked distribution, indicating that most of the respondents had given similar ratings for this area. Areas like Finance, strategy and policy were also rated on higher side by the respondents with the mean score of 4.18, 4.16 and 4.11 respectively and Median=4 for all the areas.

The low skewness and kurtosis for these areas indicate mild skewness in the data. While the perceptions of the respondents about women directors' contribution in areas of operations, marketing and risk management is positive though lower than other areas, with the mean scores of 3.96, 3.95 and 3.95 respectively and Median =4 for all the three areas. Overall, the data shows that perception of women directors' contribution in all the areas is positively viewed with most of them rating favourably.

The table 70 represents the overall Descriptive Statistics, Normality test and reliability test about the views on capabilities of women directors' contribution in decision making process in different areas.

Table 70

Descriptive Statistics (Overall Data), Normality Test and Reliability Test about the Views on Capabilities of Women directors' Contribution in Decision Making Process in Different Areas Across Respondent Companies

				Skewness		Kurtosis		Shapiro-	Cronbach
N	Mean	Median	Sd	Value	Z	Value	Z	Wilk	Alpha
55	4.17	4	0.75	-0.62	-1.93	0.26	0.41	0.000	0.876

The overall mean value of 4.17 indicates a generally positive perception of women directors' contributions in the decision-making process across different areas. The median of 4 is also in alignment with the mean.

The standard deviation of 0.75 indicates that there is less variance in responses, suggesting that most respondents' views are close to the mean. Though the Z value of Skewness and Kurtosis is -1.93 and 0.41 within the desired range of ± 1.96 for normal distribution but the Shapiro Wilk test suggest that the data is not normally distributed. The same was confirmed with the graphical presentation of histogram and Normal Q-Q plots. A Cronbach's Alpha $\alpha = 0.876$ shows excellent internal consistency and reliability for the survey instrument. This high value suggests that the different items measuring perceptions of women directors' contributions in various areas were consistent in assessing the overall construct.

Figure 11

Histogram and Normal Q-Q Plots about the Views on Capabilities of Women Directors' Contribution in Decision Making Process in Different Areas Across Respondent Companies

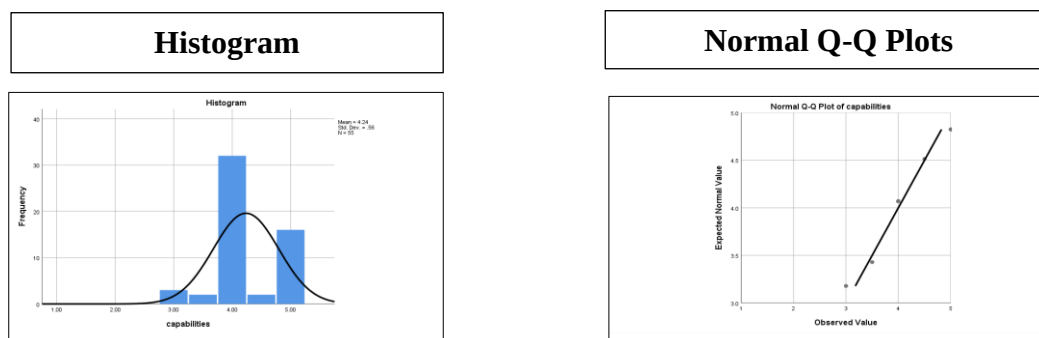


Figure 11 represents Histogram and Normal Q-Q plots are the graphical representation of the data about perceptions of women directors' contributions in various areas. Histogram is skewed towards left tail. While the Normal Q-Q plots shows that some of the observed values are not in alignment with the expected value indicating non normal distribution. Thus, the graphical representation of the data is aligned with Shapiro-wilk test suggesting the non-normality of the data. Therefore, non-parametric test is suitable to check the significant difference in the mean values of all the areas.

Hypothesis testing to check the significant difference in the mean value of each area of contribution by women directors on board

H₀: There is no significant difference in the mean values

H₁: There is significant difference in the mean values

The table 71 reflects the results of the Friedman test results regarding significant difference in the mean value of each area of contribution by women directors on board.

Table 71

Friedman Test to Check the Significant Difference Between Mean Value of Each Area of Contribution by Women Directors on Board Across Respondent Companies

Ranks	
	Mean Rank
Corporate Governance	6.61
CSR	6.35
Board related matters	6.00
HR	5.73
Policy	5.50
Finance	5.49
Strategy	5.25
Risk Management	4.72
Marketing	4.68
Operations	4.67
Test Statistics^a	
N	55
Chi-Square	56.681
Df	9
Asymp. Sig.	.000
a. Friedman Test	

Friedman test results show that respondents perception about women directors' contribution in the area of corporate governance has the highest mean rank of 6.61, followed by CSR 6.35. Mean rank for Board related area of contribution was 6.00, followed by HR area 5.73, company

policy with mean rank of 5.50, sixth highest mean rank was in the area of finance 5.49, followed by strategy 5.25. Women Directors contribution in area of Risk management had mean rank of 4.72, and mean rank in marketing area was 4.68, while last mean rank was in operations area 4.67. The result showed $\chi^2=56.681$ and the p value was 0.000 at 5% significance level. Since $p < 0.05$, indicating significant difference in the perceived contribution of women directors across different areas of decision-making. The respondents perceive that the women directors contribute more in the areas of Corporate Governance, CSR, and Board Related Matters, contributions in the areas of HR, Policy and finance are moderate, while contributions in Marketing, Operations, and Risk Management are perceived as lower compared to other areas.

Perception about Independent Women directors' Role in the Organization

Independent women directors on boards plays an important role in ensuring good corporate governance and promoting diversity in decision-making processes. Independent directors do not have any kind of material relationship with the company, its subsidiaries, or its management, which makes them fair and objective in their decision-making process. Respondents were asked different questions with regards to roles of independent women directors in the organization on 5-point Likert Scale (5-Strongly Agree to 1-Strongly Disagree).

Table 72 is Descriptive statistics and normality test on the perception about independent women director's role in the organization. The highest mean value of 4.11 and Median=4 indicates that most of the respondents were in agreement with the statement that independent women directors do improve the corporate governance of an organization.

The Z score of skewness -2.82 was not within the desired range of ± 1.96 indicating non normality distribution while the Z score for Kurtosis was 1.95 within the desired range of normality. However, Shapiro wilk test confirms that the data is not normally distributed. Second highest mean score of 3.84 suggest agreement towards the believe that independent women directors work as a strategic advisor to the company board. The skewness value of -0.64 shows a slight negative skew, indicating a tendency towards agreement. The Z score of Skewness is -1.98 which was not within the desired range of normality ± 1.96 . The value of Kurtosis 0.34 indicated that the data was relatively close to a normal distribution, The Z score of Kurtosis was 0.53 which was within the desired range of normality ± 1.96 . However, the Shapiro wilk test confirmed that the data was not normally distributed.

Table 72

Descriptive Statistics and Normality Test on The Perception about Independent Women Director's Role in the Organization Across Respondent Companies

	Mean	M	SD	Skewness		Kurtosis		Shapir
				Value	Z	Value	Z	o- Wilk
Improve the corporate governance of firm	4.11	4	0.88	-0.91	-2.82	1.23	1.95	0.000
Work as strategic advisor to company board.	3.84	4	0.94	-0.64	-1.98	0.34	0.53	0.000
Monitors the behaviour of management or controlling shareholders.	3.69	4	1.05	-0.73	-2.26	0.48	0.75	0.000
Vigilance on behalf of minority shareholders	3.42	3	1.01	-0.38	-1.18	0.20	0.32	0.000

Perception of independent women directors Monitoring the behaviour of management or controlling shareholders had the mean score of 3.69 indicating moderate level of agreement by the respondents. Skewness of -0.73 shows slight negatively skewed data and kurtosis of 0.48 shows mild deviation from normal distribution. Z score of skewness was -2.26 does not pass the normality test and Z score of Kurtosis was 0.75 which is within the range of ± 1.96 passes the normality test.

Independent women directors doing vigilance on behalf of the small shareholders had mean score of 3.42 and median=3 indicating lower level of agreement or near to neutral view with the statement. The value of skewness was -0.38 showing mild deviation from normal distribution and kurtosis 0.20 suggest data is relatively flat. The Z value of Skewness was -1.18 and Z value of Kurtosis was 0.32 both within the desired range of ± 1.96 normality, however Shapiro wilk test confirmed that the data was not normally distributed.

Table 73 reflects overall descriptive statistics, reliability and normality test on the perception about independent women director's role in the organization.

Table 73

Descriptive Statistics(overall), Reliability and Normality test on the Perception about Independent Women Director's Role in the Organization Across Respondent Companies

N	Mean	Median	Sd	Skewness		Kurtosis		Shapiro- Wilk	Cronbach Alpha
				Value	Z	Value	Z		
55	3.76	4	0.77	-0.75	-2.33	1.69	2.67	0.007	0.807

The mean value of 3.76 suggested in general agreement with the perception of independent women directors' role in the organization. The median value was 4, emphasizing that most respondents lean towards agreeing with the positive roles of independent women directors. Standard deviation of 0.77 suggest moderation variability in the responses.

The Z score of Skewness (-2.33) and Z score of Kurtosis (2.67) both are not within the desired range of normality ± 1.96 suggesting that the data is not normally distributed. This was further confirmed by Shapiro-wilk test value $0.007 < 0.05$ indicating the data was not normally distributed. The Cronbach Alpha's reliability score of 0.807 suggests that the scale used to measure perceptions of independent women directors' roles is highly reliable.

Figure 12

Histogram and Normal Q-Q Plots about Perception of Independent Women directors' Role in The Organization Across Respondent Companies

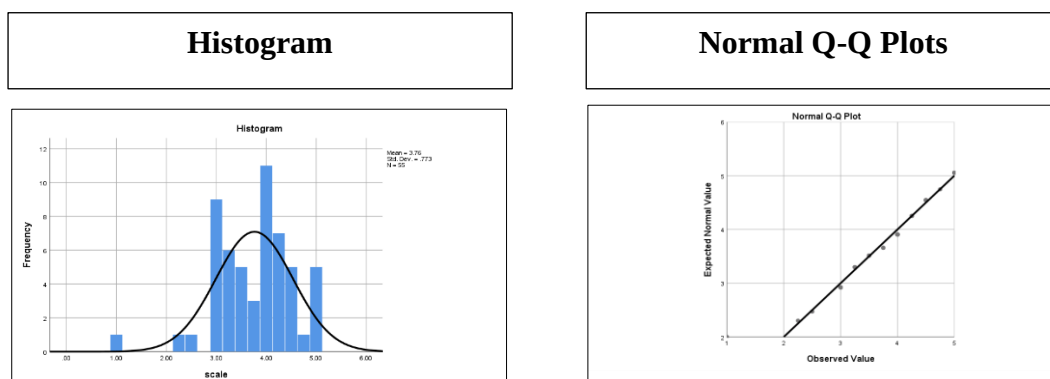


Figure 12 represents the graphical representation about the perception of independent women directors' role in the organization using Histogram and Normal Q-Q Plots. The output of Histogram and Normal Q-Q Plot shows that the data was not normally distributed and slightly

skewed towards left. While the Normal Q-Q Plots suggests that the observed values slightly deviated from the expected values. The graphs appear to be approximately normally distributed with slight skewness towards left. However, since Sapiro wilk test p value was $0.007 < 0.05$, the data was considered to be non-normal data and non-parametric tests was more suitable for test.

Hypothesis testing to check the significant difference in the mean value of perception about different roles of independent women directors in the organization

H₀: There is no significant difference in the mean values

H₁: There is significant difference in the mean values

Since the data is not normally distributed as represented through Shapiro-Wilk test and graphical representation of the data, non -parametric test Friedman test was conducted to find the significant difference in the mean value of perception about different roles of independent women directors on the boards.

Table 74 reflects the results of the Friedman test for difference in the mean value of perception about different roles of independent women directors in the organization.

Table 74

Friedman Test to Check the Significant Difference Between Mean Value of Perception about Different Roles of Independent Women directors in The Organization Across Respondent Companies

Ranks	Mean Rank
Independent women directors help in improving the corporate governance of an organization.	2.95
Independent women directors monitor the behavior of management or controlling shareholders.	2.38
Independent women directors work as strategic advisor to company board.	2.60
Vigilance on behalf of minority shareholders is done by independent women directors.	2.07

Test Statistics ^a	
N	55
Chi-Square	26.727
Df	3
Asymp.	.000
Sig.	

The mean rank of perception that independent women directors help in improving the corporate governance of an organization (Mean Rank = 2.95) indicated respondents generally agree with the statement that independent women directors play a role in improving corporate governance. While perception on independent women directors work as strategic advisors to the company board" (Mean Rank = 2.60), respondents believe independent women directors are involved in strategic decision-making and advising the board, while mean rank for statement that independent women directors monitor the behaviour of management or controlling shareholders (Mean Rank = 2.38) that respondents perceive independent women directors as less involved in monitoring the behaviour of management or controlling shareholders and Vigilance on behalf of minority shareholders is done by independent women directors (Mean Rank = 2.07) indicated that indicates that respondents do not perceive independent women directors as playing a significant role in protecting the interests of minority shareholders.

The Friedman test output results show $\chi^2=26.727$ and the p value is 0.000 at 5% significance level. Since $p < 0.05$, indicating significant difference between mean value of perception about different roles of independent women directors in the organization.

Since the p-value is very low (0.000), the researcher rejects the null hypothesis that all categories (perceptions about different roles) of independent women directors are not perceived equally. This suggests there is a significant difference in perceptions of respondents across the different roles of independent women directors in an organization. Further post-hoc test was conducted using Wilcoxon Signed Rank Test to find out which mean score have significant difference.

Table 75 presents the results of Wilcoxon Signed Rank test about the perceived roles of independent women directors on the boards of the companies.

Table 75

Wilcoxon Signed Rank Test Results Comparing Perceived Roles of Independent Women Directors on Boards Across Respondent Companies

	Monitor behaviour -Improves corporate governance	Strategic advisor to board. - Improves corporate governance	Vigilance on behalf of minority shareholders - Improves corporate governance	Strategic advisor to board. - Monitor behaviour of	Vigilance on behalf of minority shareholders - Monitor behaviour of	Vigilance on behalf of minority shareholder s - Strategic advisor to board.
Z	-2.870 ^b	-2.322 ^b	-4.009 ^b	-1.152 ^c	-1.988 ^b	-3.099 ^b
Asymp. Sig. (2- tailed)	0.004	0.020	0.000	0.249	0.047	0.002
a. <i>Wilcoxon Signed Ranks Test</i>						
b. <i>Based on positive ranks.</i>						
c. <i>Based on negative ranks.</i>						

With the Z value = -2.870 being negative indicates that respondents perceived independent women directors' monitoring behaviour of management or controlling shareholders as lower than their roles in improving corporate governance of the company. Since p value is $0.004 < 0.05$ indicating significant difference in the way two roles are perceived with improving corporate governance as prominent role. The negative Z-value (-2.322) shows that respondents rank independent women directors' role of acting as a strategic advisor to corporate boards lower than their role in improving corporate governance. The p-value is again significant ($0.020 < 0.05$), suggesting a statistically significant difference in how these two roles are perceived, with corporate governance considered to be more favoured than other.

A negative Z-value (-4.009) indicates that respondents perceive independent women directors' role of doing vigilance on behalf of minority shareholders much lower than their role in improving corporate governance. This result is highly significant with p value ($0.000 < 0.001$), suggesting a strong perception difference between these two roles. With p value = $0.249 > 0.05$ here is no statistically significant difference in how respondents view independent women director's role as a strategic advisor and their role in monitoring behaviour of management and controlling shareholders.

This comparison between independent women directors' role as doing vigilance for minority shareholders lower than their role in monitoring behaviour of management with Z value = -

1.988 and $p\text{ value} = 0.047 < 0.05$, but the difference is less noticeable than in the earlier comparisons. A negative Z-value (-3.099) and significant p-value (0.002) which is less than significance 0.005 indicating that the respondents perceive vigilance done on behalf for minority shareholders lower than their role as a strategic advisor to company board, showing a clear distinction in their views of these roles.

From Wilcoxon Signed rank test it is clear that respondents perceive independent women directors' role in improving corporate governance of the company more positively than their roles like monitoring behaviour of management or controlling shareholders, their role as a strategic advisor to boards and their role as doing vigilance on behalf of minority shareholders of the company. Vigilance for minority shareholders tends to be ranked lowest compared to other roles.

Characteristics of Women directors

Perception on diverse characteristics of women directors on boards have been asked to respondents to understand which characteristics of women directors influence the corporate governance and company performance. Here 11-point Likert Scale was used ranging from 0 (Not at all Likely) to 10 (extremely Likely). The table presents the descriptive statistics of the women directors on boards. The key metrics includes Mean, Median, Standard deviation, Skewness, Kurtosis and results from Shapiro Wilk Test of normality for each attribute.

Table 76 presents the descriptive statistics on perception of respondents about different characteristics of women directors on boards.

From the table 76 highest mean was scored by Characteristic Ethical ($\bar{x} = 8.64$, $SD = 1.71$), indicating that respondents generally view women directors as highly ethical. The Z score for skewness and Kurtosis (-4.44 & 2.27) both not within the desired range of ± 1.96 , indicating that the data was not normally distributed. This was further confirmed by the results of Shapiro-Wilk test also ($p=0.000$). The second highest mean is of attentive characteristics ($\bar{x} = 8.36$, $SD = 2.04$) and Independent ($\bar{x} = 8.36$, $SD = 1.84$), suggesting that attentiveness and independence are strongly linked with women directors. For attentiveness characteristics the Skewness Z score was -5.69 and Kurtosis Z score was 6.75 both not within the desired range of ± 1.96 , indicating that the data was not normally distributed. This was further confirmed by the results of Shapiro-Wilk test also ($p=0.000$). While for Independence the Skewness Z score was -3.72 not within the normality range and Kurtosis Z score was 0.90 within the range of normality.

However, Shapiro-Wilk test results ($p=0.000$) indicated that the data was not normally distributed.

Table 76

Descriptive Statistics on Perception of Different Characteristics of Women Directors Across the Respondent Companies

	$\bar{x}$	M	Sd	Skewness		Kurtosis		Shapiro-Wilk
				Value	Z	Value	Z	
Ethical	8.64	9	1.71	-1.42	-4.44	1.43	2.27	0.000
Attentive	8.36	9	2.04	-1.82	-5.69	4.14	6.57	0.000
Independent	8.36	9	1.84	-1.19	-3.72	0.57	0.90	0.000
Professional	8.29	9	1.88	-1.06	-3.32	0.19	0.30	0.000
Subject Mater Expert	8.09	9	2.04	-1.54	-4.82	3.27	5.19	0.000
Team Player	7.64	8	2.26	-1.01	-3.16	0.92	1.45	0.000
Assertive	7.58	8	2.24	-1.09	-3.40	1.06	1.68	0.000
Sensitive	7.49	8	2.12	-1.68	-5.25	4.10	6.51	0.000
Workaholic	7.11	7	2.10	-0.50	-1.56	-0.07	-0.12	0.008
Risk Taker	6.93	7	1.97	-0.41	-1.27	-0.03	-0.05	0.012
Sports Enthusiastic	5.55	5	2.52	0.05	0.17	-0.29	-0.45	0.036
Aggressive	5.27	5	2.59	-0.44	-1.39	-0.09	-0.14	0.009
Dominating	4.64	5	2.66	-0.18	-0.55	-0.21	-0.33	0.002

Professional Characteristics has ($\bar{x} = 8.29$, $SD = 1.88$), while skewness Z value was -3.32 not within ± 1.96 of normality and kurtosis Z score was 0.30 within the normality range, but Shapiro wilk test confirms that the data is not normally distributed. For Subject Matter Expert characteristics has ($\bar{x} = 8.11$, $SD = 2.04$) further indicating that women directors are highly knowledgeable. Team Player characteristics had ($\bar{x} = 7.64$, $SD = 2.26$), Assertive characteristics had ($\bar{x} = 7.58$, $SD = 2.24$). Sensitive characteristics had ($\bar{x} = 7.49$, $SD = 2.12$) and Workaholic characteristics had (Mean = 7.11, $SD = 2.10$) indicate slightly lower but positive perceptions about women directors. Risk Taker characteristics with ($\bar{x} = 6.93$, $SD = 1.97$) suggested that women directors were perceived to be cautious in terms of risky decisions. Characteristics has Sports Enthusiastic ($\bar{x} = 5.55$, $SD = 2.52$), Aggressive ($\bar{x} = 5.27$, $SD = 2.59$), and Dominating ($\bar{x} = 4.64$, $SD = 2.66$) characteristics were rated on lower side, indicating that these traits were less commonly perceived in women directors. For all the attributes the

Shapiro-Wilk test results was less than 0.05 indicating that the data was not normally distributed.

The table 77 presents the overall descriptive statistics, normality test and reliability test results on the perception of different characteristics of women directors across the respondent Companies (n=55).

The mean value 7.23 indicates favourable views of the respondents about the overall characteristics of women directors. Standard deviation value =1.44 suggest moderate level of deviation in the distribution.

Table 77

Overall Descriptive Statistics, Normality Test and Reliability Test on Perception of Different Characteristics of Women directors Across the Respondent Companies

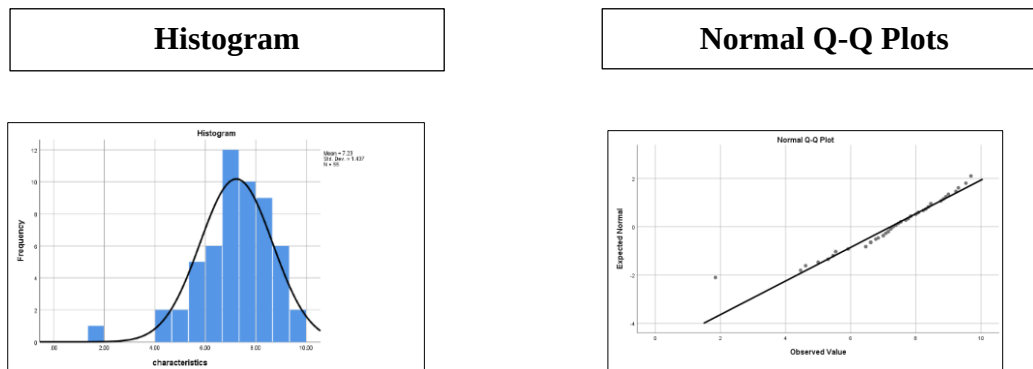
N	Mean	Median	Sd	Skewness		Kurtosis		Shapiro- Wilk	Cronbach's Alpha
				Value	Z	Value	Z		
55	7.23	8	1.44	-1.06	3.28	2.47	3.88	0.01	0.895

The value of skewness -1.06 suggested mild negative skewness in the data. To pass the normality assumption for $\alpha = 0.05$ both of these values must fall between -1.96 and $+1.96$. The Z score of Skewness =3.28 and Z score of Kurtosis =3.88 were not within the desired range, therefore not passing the normality assumption. The Shapiro Wilk test results was $0.01 < 0.05$ indicating the data was not normally distributed. Further the data was presented graphically to check the normality of the data. Cronbach's Alpha test value =0.895 indicates there was high internal consistency among the items measured, suggesting that the scale used is reliable for assessing perceptions about the characteristics of women directors on boards of listed companies.

Figure 13 reflects the graphical representation about characteristics of women directors on boards of listed companies (n=55) through histogram and Normal Q-Q plots. Through Histogram it was visible that the data was slightly skewed towards left indicating that the data was not normally distributed. Indicating that most of the respondents have rated women directors on higher side. While in Normal Q-Q plots observed values were not near the expected values indicating that the data collected is not normally distributed. Most of the data points were concentrated near diagonal with few exceptions on the lower end of the diagonal line.

Figure 13

Histogram & Normal Q-Q Plots about Characteristics of Women Directors Across the Respondent Companies



Perceptions about Women at Middle Management Level

Companies Act 2013 which mandated appointment of at least one-woman director on board has significantly influenced the corporates to look towards gender diversity in the organization. However, journey of women from middle management level to board position is not a cake walk as it comes with various perceptions and organizational dynamics. Perceptions on various aspects about women at middle management level has been studied hereunder various questions.

Since the data is non-normally distributed non-parametric test Spearman's Rank Correlation test was conducted to find out the significant correlation between different characteristics of women directors on the board.

Table 78 represents the output of Spearman's Rank Correlation Test.

Table 78

Spearman's Correlation Between Characteristics of Women Directors on Board Across Respondent Companies

		Professional	Subject Mater Expert	Independent	Risk Taker	Team Player	Assertive	Sensitive	Attentive	Ethical	Aggressive	Dominating	Sports Enthusiastic	Workaholic
Professional	P	1	.888**	.456**	.573**	.700**	.628**	.427**	.815**	.730**	0.017	0.087	.333*	.601**
	Sig.	.	0.00	0.00	0.00	0.00	0.00	0.001	0.00	0.00	0.902	0.533	0.013	0.00
Subject Mater Expert	P	.888**	1	.394**	.569**	.749**	.678**	.561**	.738**	.720**	0.014	0.109	.363**	.588**
	Sig.	0.00	.	0.003	0.00	0.00	0.00	0.00	0.00	0.00	0.916	0.431	0.006	0.00
Independent	P	.456**	.394**	1	.423**	.519**	.388**	0.262	.436**	.464**	-0.064	-0.061	0.216	0.14
	Sig.	0.00	0.003	.	0.001	0.00	0.003	0.053	0.001	0.00	0.643	0.664	0.113	0.308
Risk Taker	P	.573**	.569**	.423**	1	.661**	.616**	.429**	.493**	.399**	0.131	0.221	.584**	.645**
	Sig.	0.00	0.00	0.001	.	0.00	0.00	0.001	0.00	0.003	0.341	0.109	0.00	0.00
Team Player	P	.700**	.749**	.519**	.661**	1	.830**	.553**	.735**	.577**	-0.098	-0.009	.436**	.514**
	Sig.	0.00	0.00	0.00	0.00	.	0.00	0.00	0.00	0.00	0.476	0.95	0.001	0
Assertive	P	.628**	.678**	.388**	.616**	.830**	1	.597**	.663**	.589**	0.023	0.041	.386**	.448**
	Sig.	0.00	0.00	0.003	0.00	0.00	.	0.00	0.00	0.00	0.867	0.77	0.004	0.001
Sensitive	P	.427**	.561**	0.262	.429**	.553**	.597**	1	.476**	.423**	-0.053	0.1	.288*	.348**
	Sig.	0.001	0.00	0.053	0.001	0.00	0.00	.	0.00	0.001	0.7	0.472	0.033	0.009
Attentive	P	.815**	.738**	.436**	.493**	.735**	.663**	.476**	1	.769**	0.008	-0.039	.286*	.508**
	Sig.	0.00	0.00	0.001	0.00	0.00	0.00	0.00	.	0.00	0.955	0.779	0.034	0

		Professional	Subject Mater Expert	Independent	Risk Taker	Team Player	Assertive	Sensitive	Attentive	Ethical	Aggressive	Dominating	Sports Enthusiastic	Workaholic
Ethical	P	.730**	.720**	.464**	.399**	.577**	.589**	.423**	.769**	1	0.042	0.037	.280*	.424**
	Sig.	0.00	0.00	0.00	0.003	0.00	0.00	0.001	0.00	.	0.758	0.789	0.039	0.001
Aggressive	P	0.017	0.014	-0.064	0.131	-0.098	0.023	-0.053	0.008	0.042	1	.670**	0.175	0.094
	Sig.	0.902	0.916	0.643	0.341	0.476	0.867	0.7	0.955	0.758	.	0.00	0.2	0.493
Dominating	P	0.087	0.109	-0.061	0.221	-0.009	0.041	0.1	-0.039	0.037	.670**	1	.316*	0.212
	Sig.	0.533	0.431	0.664	0.109	0.95	0.77	0.472	0.779	0.789	0.00	.	0.02	0.123
Sports Enthusiastic	P	.333*	.363**	0.216	.584**	.436**	.386**	.288*	.286*	.280*	0.175	.316*	1	.545**
	Sig.	0.013	0.006	0.113	0.00	0.001	0.004	0.033	0.034	0.039	0.2	0.02	.	0.00
Workaholic	P	.601**	.588**	0.14	.645**	.514**	.448**	.348**	.508**	.424**	0.094	0.212	.545**	1
	Sig.	0.00	0.00	0.308	0.00	0.00	0.001	0.009	0.00	0.001	0.493	0.123	0.00	.

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Strongest Positive Correlations ($\rho > 0.7$):

- 1) **Professional and Subject Matter Expert ($\rho = 0.888$):** There was a very strong positive relationship between women being seen as a Professional and a Subject Matter Expert, reflecting that professional women directors were often perceived to be knowledgeable subject experts.
- 2) **Team Player and Assertive ($\rho = 0.830$):** Characteristics team player and assertive behaviour were strongly linked, indicating that assertive women directors were considered as an effective team player.
- 3) **Attentive and Professional ($\rho = 0.815$):** Professionalism and attentiveness were strongly correlated, suggesting that attentive directors were also perceived as professional.
- 4) **Attentive and Ethical ($\rho = 0.769$):** An attentive director was also likely to be seen as an ethical.
- 5) **Subject matter expert and Team player ($\rho = 0.749$):** A women director who was subject matter expert was also perceived as a good team player.
- 6) **Subject matter expert and Ethical ($\rho = 0.720$):** Women director displaying ethical behaviours were also considered to be knowledgeable.
- 7) **Subject matter experts and Attentive ($\rho = 0.738$):** Women directors who were subject matter experts also give attentiveness to every detail in the board meetings of the company.
- 8) **Team player and Attentive ($\rho = 0.720$):** Women directors who were good team players were also perceived as attentive in every matter.
- 9) **Ethical and Professional ($\rho = 0.730$):** Women directors who displayed professional behaviours were often perceived to be ethical in their duties.

Moderate Positive Correlations (ρ between 0.5 and 0.7):

- 1) **Risk Taker and Team Player ($\rho = 0.661$):** A moderately strong correlation suggests that women directors who were risk-takers are often perceived as good team players.
- 2) **Workaholic and Risk Taker ($\rho = 0.645$):** There is a strong relationship between being a workaholic and a risk-taker, indicating that women who work hard were also more willing to take risks.
- 3) **Professional and Risk Taker ($\rho = 0.573$):** Professionalism correlates with risk-taking, suggesting that being professional might involve taking calculated risks.

- 4) **Workaholic and Sports Enthusiastic ($p = 0.545$):** Women who are considered workaholics also tend to be sports enthusiasts, reflecting a balance between dedication and active lifestyle.

Non-significant Correlations:

Characteristics like Aggressive have no significant correlations with most other traits, indicating that being aggressive does not have a significant relationship with being professional, assertive, or ethical.

Dominating has no significant correlations with most characteristics. There, is positive correlation between Aggressive and dominating behaviour (0.670) indicating that women directors who are aggressive are often dominating in the boards. Also, there is dominating women are considered to be bit sports enthusiastic with low positive correlation (0.316).

Negative Correlations: There are very few and weak negative correlations. For example, Aggressive has a slight negative relationship with Team Player (though not statistically significant), suggesting that aggression is not typically associated with teamwork.

Thus, the spearman's correlation coefficient results suggests that there is a strong tendency for professional women directors to also perceived as subject matter experts, ethical, and attentive. Assertiveness, team playing, and attentiveness are interrelated characteristics that describe women directors. Aggressiveness and dominance are not prominent or significantly correlated with other characteristics within this group, indicating that they do not form part of characteristics of women directors in this context. This analysis suggests that women directors are perceived positively when they exhibit traits like professionalism, expertise, attentiveness, and being ethical, while traits like aggression and dominance do not play a major role.

Opinions about the way women are perceived in the role of a board member or when getting promoted to the board level

There are various cultural obstacles and gender stereotypes that women usually face. To understand how the women are perceived in the role of a board member or when they are getting promoted to board level, different questions were asked to the respondents on 5- Point Likert Scale, (5- Strongly Agree to 1-Strongly Disagree).

Table 79 descriptive statistics for the data on opinions about the way women are perceived in the role of a board member or when getting promoted to the board level (n=55).

Table 79

The Descriptive Statistics for The Data on Opinions about the Way Women are Perceived in The Role of a Board Member or When Getting Promoted to The Board Level Across Respondent Companies

Statement	Mean	M	SD	Shapiro-Wilk
Women in top management, i.e., board, lead to better risk management.	3.8	4	0.97	0.000
There is more need for leadership and development programs for women to prepare them for board members' roles.	3.73	4	1.01	0.000
Negative perceptions and stereotypes about women's professional capabilities lead to barriers in career advancement.	3.31	4	1.18	0.001
Women are reluctant to fight for their career path.	3.15	3	1.18	0.000
Women generally have less freedom to pursue their careers because they are nurturing their family.	3.15	3	1.06	0.000
Organization faces difficulties in assigning outstation and overseas projects to women.	3.09	3	1.19	0.001
Paternalistic society creates hurdles for women to reach the top.	3.02	3	1.22	0.001
Women usually leave their career when they are at the peak of their career.	2.98	3	1.01	0.000
Women need to show more accomplishment than their men counterparts for getting promotion in the company.	2.85	3	1.19	0.000
Women are less acceptable than their men counterparts in the leadership role.	2.85	3	1.21	0.001
Women have to be extra well-prepared to look professional and get other members' attention on what they would like to say.	2.85	3	1.24	0.000
There is generally a negative perception and stereotypes about women's commitment towards their career.	2.75	3	1.28	0.000
Women get fewer opportunities than men for professional development at work.	2.73	3	1.19	0.000
Women receive more unfair judgments of their work	2.64	2	1.16	0.000
At work, men usually receive more organizational support and trust than women.	2.62	3	1.15	0.000
It is more difficult for women than men to work independently in an organization.	2.55	2	1.05	0.000
Men have a problem working with women board members.	2.38	2	1.1	0.000
During the board meeting, men hardly pay attention to what women have to say.	2.24	2	1.1	0.000

‘Women in top management, i.e., board, lead to better risk management’ had highest mean with SD ($\bar{x}$ =3.80, SD =0.97) and followed by ‘need for more leadership and development programs for women to prepare them for board members' roles’ ($\bar{x}$ =3.73, SD =1.10) thereby indicating a general agreement with these statements. ‘Negative perceptions and stereotypes about women’s professional capabilities lead to barriers in career advancement’ had ($\bar{x}$ =3.31), ‘Women are reluctant to fight for their career path’ had ($\bar{x}$ =3.15), ‘Women generally have less freedom to pursue their careers because they are nurturing their family’ ($\bar{x}$ =3.15), ‘Organization faces difficulties in assigning outstation and overseas projects to women’ ($\bar{x}$ =3.09), ‘Paternalistic society creates hurdles for women to reach the top’ ($\bar{x}$ =3.02), ‘Women usually leave their career when they are at the peak of their career’ ($\bar{x}$ =2.98), statements like ‘Women need to show more accomplishment than their men counterparts for getting promotion in the company’, ‘Women are less acceptable than their men counterparts in the leadership role’ and ‘Women have to be extra well-prepared to look professional and get other members’ attention on what they would like to say’ each has mean score of 2.85, followed by ‘There is generally a negative perception and stereotypes about women’s commitment towards their career’ followed by ($\bar{x}$ =2.75), ‘Women get fewer opportunities than men for professional development at work’ ($\bar{x}$ =2.73), ‘Women receive more unfair judgments of their work’ ($\bar{x}$ =2.73), ‘At work, men usually receive more organizational support and trust than women’ ($\bar{x}$ =2.62).’ It is more difficult for women than men to work independently in an organization’ ($\bar{x}$ =2.55), indicating respondents perceived it as agreement to neutral.

While opinions about ‘men hardly pay attention to what women directors have to say during board meetings’ with mean with SD ($\bar{x}$ =2.38, SD =1.1) and views that men have a problem working with women board members have lower mean scores ($\bar{x}$ =2.24, SD =1.1), indicating disagreement or neutrality. Standard deviations are generally around 1, indicating some variation in opinions, but not extreme. Shapiro Wilk Test for all the statements is less than 0.05 indicating non-normality of the data.

Table 80 represents the reliability test results of Cronbach’s Alpha, about the opinions on the way women are perceived in the role of a board members or when getting promoted to board level.

Table 80

Reliability Test of the Data on Opinions About the way Women are Perceived in The Role of a Board Member or When Getting Promoted to The Board Level Across Respondent Companies

Cronbach's Alpha Based on		
Alpha	Standardized Items	N of Items
0.954	0.954	18

Cronbach's Alpha score of 0.954 for 18 items reflect that the data is highly reliable and there is high internal consistency among the items.

To measure the strength of relationship and direction between different variables, Spearman rank correlation was been used. Table 81 represents the Spearman's Rank Correlation results.

TABLE 81

Spearman's Correlation Coefficient the Way Women are Perceived in the Role of Board Member or When Getting Promoted to Board Level Across Respondent companies (n=55)

		Women receive more unfair judgments of their work performance than men	Negative perceptions and stereotypes about women's professional capabilities leads to barriers in career advancement.	Women have to be extra well prepared to look professional and get other member's attention on what they would like to say.	Women needs to show more accomplishment than their male counterparts for getting promotion in the company.	There is generally negative perception and stereotypes about women's commitment towards their career	Organization face difficulties in assigning outstation and overseas projects to women.	It is more difficult for women than men to work independently in an organization.	Women get fewer opportunities than men for professional development at work.	At work, men usually receive more organizational support and trust than women.	Paternalistic society creates hurdle for women to reach to top.	Women usually leave their career when they are at the peak of their career.	There is more need of leadership and development programs for women to prepare them for board members' role.	Women are reluctant to fight for their career path.	Women are less acceptable than their male counterparts in the leadership role.	Women generally have less freedom to pursue their career because they are nurturing their family.	Women in the top management, i.e. board, leads to better risk management.
Women receive more unfair judgments of their work performance than men	Correlation Coefficient	1.000	.494**	.296*	.526**	.542**	.515**	.522**	.523**	.490**	.530**	.327*	0.199	0.263	.434**	.307*	.290*
	Sig. (2-tailed)		0.000	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.146	0.052	0.001	0.023	0.032
Negative perceptions and stereotypes about women's professional capabilities leads to barriers in career advancement.	Correlation Coefficient	.494**	1.000	.519**	.555**	.565**	.514**	.430**	.455**	.516**	.482**	.383**	.571**	.391**	.467**	0.258	.366**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.004	0.000	0.003	0.000	0.057	0.006
Women have to be extra well prepared to look professional and get other member's attention on what they would like to say.	Correlation Coefficient	.296*	.519**	1.000	.691**	.562**	.539**	.530**	.403**	.486**	.472**	.631**	.614**	.561**	.559**	.499**	.479**
	Sig. (2-tailed)	0.028	0.000		0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

		Women receive more unfair judgments of their work performance than men	Negative perceptions and stereotypes about women's professional capabilities leads to barriers in career advancement.	Women have to be extra well prepared to look professional and get other member's attention on what they would like to say.	Women needs to show more accomplishment than their male counterparts for getting promotion in the company.	There is generally negative perception and stereotypes about women's commitment towards their career	Organization face difficulties in assigning outstation and overseas projects to women.	It is more difficult for women than men to work independently in an organization.	Women get fewer opportunities than men for professional development at work.	At work, men usually receive more organizational support and trust than women.	Paternalistic society creates hurdle for women to reach to top.	Women usually leave their career when they are at the peak of their career.	There is more need of leadership and development programs for women to prepare them for board members' role.	Women are reluctant to fight for their career path.	Women are less acceptable than their male counterparts in the leadership role.	Women generally have less freedom to pursue their career because they are nurturing their family.	Women in the top management, i.e. board, leads to better risk management.
Women needs to show more accomplishment than their male counterparts for getting promotion in the company.	Correlation Coefficient	.526**	.555**	.691**	1.000	.700**	.699**	.648**	.621**	.617**	.593**	.611**	.490**	.600**	.690**	.604**	.414**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
There is generally negative perception and stereotypes about women's commitment towards their career	Correlation Coefficient	.542**	.565**	.562**	.700**	1.000	.660**	.534**	.775**	.693**	.596**	.491**	.484**	.531**	.629**	.519**	.349**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009
Organization face difficulties in assigning outstation and overseas projects to women.	Correlation Coefficient	.515**	.514**	.539**	.699**	.660**	1.000	.651**	.668**	.640**	.625**	.529**	.489**	.697**	.793**	.552**	0.248
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.068
It is more difficult for women than men to work independently in an organization.	Correlation Coefficient	.522**	.430**	.530**	.648**	.534**	.651**	1.000	.563**	.671**	.535**	.433**	.351**	.684**	.623**	.499**	.401**
	Sig. (2-tailed)	0.000	0.001	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.001	0.009	0.000	0.000	0.000	0.002
Women get fewer opportunities than men for professional development at work.	Correlation Coefficient	.523**	.455**	.403**	.621**	.775**	.668**	.563**	1.000	.800**	.533**	.428**	.372**	.555**	.576**	.490**	0.171
	Sig. (2-tailed)	0.000	0.000	0.002	0.000	0.000	0.000	0.000		0.000	0.000	0.001	0.005	0.000	0.000	0.000	0.212

		Women receive more unfair judgments of their work performance than men	Negative perceptions and stereotypes about women's professional capabilities leads to barriers in career advancement.	Women have to be extra well prepared to look professional and get other member's attention on what they would like to say.	Women needs to show more accomplishment than their male counterparts for getting promotion in the company.	There is generally negative perception and stereotypes about women's commitment towards their career	Organization face difficulties in assigning outstation and overseas projects to women.	It is more difficult for women than men to work independently in an organization.	Women get fewer opportunities than men for professional development at work.	At work, men usually receive more organizational support and trust than women.	Paternalistic society creates hurdle for women to reach to top.	Women usually leave their career when they are at the peak of their career.	There is more need of leadership and development programs for women to prepare them for board members' role.	Women are reluctant to fight for their career path.	Women are less acceptable than their male counterparts in the leadership role.	Women generally have less freedom to pursue their career because they are nurturing their family.	Women in the top management, i.e. board, leads to better risk management.
At work, men usually receive more organizational support and trust than women.	Correlation Coefficient	.490**	.516**	.486**	.617**	.693**	.640**	.671**	.800**	1.000	.615**	.503**	.284*	.679**	.596**	.451**	0.205
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.036	0.000	0.000	0.001	0.132
Paternalistic society creates hurdle for women to reach to top.	Correlation Coefficient	.530**	.482**	.472**	.593**	.596**	.625**	.535**	.533**	.615**	1.000	.415**	.307*	.473**	.651**	.519**	.279*
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.002	0.023	0.000	0.000	0.000	0.039
Women usually leave their career when they are at the peak of their career.	Correlation Coefficient	.327*	.383**	.631**	.611**	.491**	.529**	.433**	.428**	.503**	.415**	1.000	.389**	.507**	.556**	.549**	.277*
	Sig. (2-tailed)	0.015	0.004	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.002		0.003	0.000	0.000	0.000	0.041
There is more need of leadership and development programs for women to prepare them for board members' role.	Correlation Coefficient	0.199	.571**	.614**	.490**	.484**	.489**	.351**	.372**	.284*	.307*	.389**	1.000	.564**	.424**	.466**	.668**
	Sig. (2-tailed)	0.146	0.000	0.000	0.000	0.000	0.000	0.009	0.005	0.036	0.023	0.003		0.000	0.001	0.000	0.000
Women are reluctant to fight for their career path.	Correlation Coefficient	0.263	.391**	.561**	.600**	.531**	.697**	.684**	.555**	.679**	.473**	.507**	.564**	1.000	.657**	.578**	.453**
	Sig. (2-tailed)	0.052	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.001
Women are less acceptable than their	Correlation Coefficient	.434**	.467**	.559**	.690**	.629**	.793**	.623**	.576**	.596**	.651**	.556**	.424**	.657**	1.000	.512**	0.262

		Women receive more unfair judgments of their work performance than men	Negative perceptions and stereotypes about women's professional capabilities leads to barriers in career advancement.	Women have to be extra well prepared to look professional and get other member's attention on what they would like to say.	Women needs to show more accomplishment than their male counterparts for getting promotion in the company.	There is generally negative perception and stereotypes about women's commitment towards their career	Organization face difficulties in assigning outstation and overseas projects to women.	It is more difficult for women than men to work independently in an organization.	Women get fewer opportunities than men for professional development at work.	At work, men usually receive more organizational support and trust than women.	Paternalistic society creates hurdle for women to reach to top.	Women usually leave their career when they are at the peak of their career.	There is more need of leadership and development programs for women to prepare them for board members' role.	Women are reluctant to fight for their career path.	Women are less acceptable than their male counterparts in the leadership role.	Women generally have less freedom to pursue their career because they are nurturing their family.	Women in the top management, i.e. board, leads to better risk management.
male counterparts in the leadership role.	Sig. (2-tailed)	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000		0.000	0.053
Women generally have less freedom to pursue their career because they are nurturing their family.	Correlation Coefficient	.307*	0.258	.499**	.604**	.519**	.552**	.499**	.490**	.451**	.519**	.549**	.466**	.578**	.512**	1.000	.519**
Women in the top management, i.e. board, leads to better risk management.	Sig. (2-tailed)	0.023	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000		0.000
	Correlation Coefficient	.290*	.366**	.479**	.414**	.349**	0.248	.401**	0.171	0.205	.279*	.277*	.668**	.453**	0.262	.519**	1.000
	Sig. (2-tailed)	0.032	0.006	0.000	0.002	0.009	0.068	0.002	0.212	0.132	0.039	0.041	0.000	0.001	0.053	0.000	

Table 81 presents Spearman Correlation Coefficient about the way women are perceived in the role of board member or when getting promoted to board level across respondent companies. Since the data was not normally distributed, Spearman's rho was conducted to measure the strength and direction of the relationship between two variables. The correlation coefficients range from -1 to 1.

Strongest Correlation ($r > 0.7$)

Below statements show that there is very strong relationship between the variables since the p value is less than 0.01 and $r > 0.7$.

View about the statement that 'women get fewer opportunities than men for professional development' and view about the statement that "at work men usually receive more organizational support and trust than women" show strong correlation with $r=0.800$ and $p=0.000$.

Respondents view about Women face difficulties in overseas projects and Women are less acceptable than men in leadership roles have strong correlation with $r=0.793$, $p=0.000$

Respondents' view about Women gets fewer opportunities for professional development: and Negative perceptions about women's career commitment had strong correlation with $r=0.775$, $p=0.000$

Perception about the statement that women need to show more accomplishment than men for promotion and statement on Negative perception about women's career commitment show strong correlation with: $r=0.700$, $p=0.000$.

Weak or No Significant Correlations ($r < 0$, $p > 0.05$)

Below statements have weak or no significant correlations.

'Women receiving more unfair judgments or their work performance than men' had no significant relationship with view on 'there is more need of leadership' and development programs for women to prepare them for board member' role with $r=0.199$ and $p=1.46$, and with 'Women are reluctant to fight for their career path' with $r=0.263$ and $p=0.052$.

No significant relationship was found between view on 'Negative perceptions and stereotypes about women's professional capabilities leading to barriers in career development' and

‘Women generally have less freedom to pursue their career because they are nurturing their family’ with $r=0.258$ and $p=0.057$.

No significant relationship was found between ‘Women in the top management i.e. board, leads to better risk management’ and ‘organization face difficulties in assigning outstation and overseas projects to women’ ($r=0.248, p=0.068$), ‘women get fewer opportunities than men for professional development at work’ ($r=0.171, p=0.212$), ‘At work men usually receive more organizational support and trust than women’ ($r=0.205, p=0.132$) and with ‘Women are less acceptable than their male counterparts in leadership roles’ ($r=0.262, p=0.053$).

Hypothesis testing between male and female respondents (CS) about the way women are perceived in the role of board member or when getting promoted to board level.

H₀: There is no significant difference in views of male and female respondents about the way women are perceived in the role of board member or when getting promoted to board level

H₁: There is significant difference in views of male and female respondents about the way women are perceived in the role of board member or when getting promoted to board level

Since the data was not normally distributed Mann-Whitney U test was conducted to find out if there is significant difference in views of male and female respondents about the way women are perceived in the role of board member or when getting promoted to board level.

Table 82

Mann-Whitney U Test Mean Ranks about Gender of Respondents Views on The Way Women are Perceived in The Role of Board Member or When Getting Promoted to Board Level.

Ranks				
Gender of respondent		N	Mean Rank	Sum of Ranks
Women receive more unfair judgments of their work performance than men	Male	34	24.75	841.50
	Female	21	33.26	698.50
Negative perceptions and stereotypes about women’s professional capabilities leads to barriers in career advancement.	Male	34	23.03	783.00
	Female	21	36.05	757.00
During the board meeting men hardly pay attention to what women have to say.	Male	34	25.00	850.00
	Female	21	32.86	690.00
	Male	34	25.25	858.50

Ranks				
Gender of respondent		N	Mean Rank	Sum of Ranks
Women have to be extra well prepared to look professional and get other member' attention on what they would like to say.	Female	21	32.45	681.50
Women needs to show more accomplishment than their male counterparts for getting promotion in the company.	Male	34	24.12	820.00
	Female	21	34.29	720.00
There is generally negative perception and stereotypes about women's commitment towards their career	Male	34	23.85	811.00
	Female	21	34.71	729.00
Organization face difficulties in assigning outstation and overseas projects to women.	Male	34	23.69	805.50
	Female	21	34.98	734.50
It is more difficult for women than men to work independently in an organization.	Male	34	25.69	873.50
	Female	21	31.74	666.50
Women get fewer opportunities than men for professional development at work.	Male	34	24.18	822.00
	Female	21	34.19	718.00
At work, men usually receive more organizational support and trust than women.	Male	34	24.56	835.00
	Female	21	33.57	705.00
Paternalistic society creates hurdle for women to reach to top.	Male	34	23.62	803.00
	Female	21	35.10	737.00
Women usually leave their career when they are at the peak of their career.	Male	34	23.41	796.00
	Female	21	35.43	744.00
There is more need of leadership and development programs for women to prepare them for board members' role.	Male	34	25.16	855.50
	Female	21	32.60	684.50
Women are reluctant to fight for their career path.	Male	34	25.01	850.50
	Female	21	32.83	689.50
Women are less acceptable than their male counterparts in the leadership role.	Male	34	24.19	822.50
	Female	21	34.17	717.50
Men have problem working with female board members	Male	34	26.82	912.00
	Female	21	29.90	628.00
Women generally have less freedom to pursue their career because they are nurturing their family.	Male	34	26.21	891.00
	Female	21	30.90	649.00
Women in the top management, i.e. board, leads to better risk management.	Male	34	26.41	898.00
	Female	21	30.57	642.00

Table 83

Mann-Whitney U Test statistics About Gender of Respondents Views on The Way Women are Perceived in The Role of Board Member or When Getting Promoted to Board Level

Variable	Mann-Whitney U	Wilcoxon W	Z	p	
Women receive more unfair judgments of their work performance than men	246.5	841.5	-1.981	0.048	Rejects H₀
Negative perceptions and stereotypes about women's professional capabilities lead to barriers	188	783	-3.044	0.002	Rejects H₀
Women need to show more accomplishment than their male counterparts for promotion	225	820	-2.366	0.018	Rejects H₀
Negative perceptions and stereotypes about women's commitment towards their career	216	811	-2.509	0.012	Rejects H₀
Organization face difficulties assigning outstation/overseas projects to women	210.5	805.5	-2.62	0.009	Rejects H₀
Women are less acceptable than their male counterparts in leadership roles	227.5	822.5	-2.308	0.021	Rejects H₀
Women get fewer opportunities than men for professional development at work	227	822	-2.328	0.02	Rejects H₀
At work, men receive more organizational support and trust than women	240	835	-2.099	0.036	Rejects H₀
Paternalistic society creates hurdles for women to reach the top	208	803	-2.664	0.008	Rejects H₀
Women usually leave their careers when at the peak	201	796	-2.901	0.004	Rejects H₀
Need for leadership and development programs to prepare women for board roles	260.5	855.5	-1.795	0.073	Accept H ₀
Women are reluctant to fight for their career path	255.5	850.5	-1.816	0.069	Accept H ₀
It is more difficult for women than men to work independently in an organization	278.5	873.5	-1.433	0.152	Accept H ₀
Men have problems working with female board members	317	912	-0.719	0.472	Accept H ₀
Women have less freedom to pursue their careers due to family responsibilities	296	891	-1.108	0.268	Accept H ₀
Women in top management (board) lead to better risk management	303	898	-0.981	0.327	Accept H ₀

Variable	Mann-Whitney U	Wilcoxon W	Z	p	
During the board meeting, men hardly pay attention to what women have to say	255	850	-1.836	0.066	Accept H_0
Women have to be extra well-prepared to look professional and get others' attention	263.5	858.5	-1.665	0.096	Accept H_0

Table 82 and 83 presents Mann-Whitney U test mean ranks and statistics results applied to analyse the difference in views about women in middle management level between male and female respondents (Company Secretaries).

There is significant difference in the views of male and female Company Secretaries for statements like 'Women receive more unfair judgments of their work performance than men' ($p=0.048$), 'Negative perceptions and stereotypes about women's professional capabilities lead to barriers' ($p=0.002$), 'Women need to show more accomplishment than their male counterparts for promotion' ($p=0.018$), 'Negative perceptions and stereotypes about women's commitment towards their career' ($p=0.012$), 'Organization face difficulties assigning outstation/overseas projects to women' ($p=0.09$), 'Women are less acceptable than their male counterparts in leadership roles' ($p=0.021$), 'Women get fewer opportunities than men for professional development at work' ($p=0.02$), 'At work, men receive more organizational support and trust than women' ($p=0.036$), 'Paternalistic society creates hurdles for women to reach the top' ($p=0.008$), and 'Women usually leave their careers when at the peak' ($p=0.004$). Since the p value is less than 0.05, it indicates there is significant difference in views of male and female respondents about these statements. It suggests that female respondents are more in agreement to these statements as can be seen in the mean rank order also.

While there is no significant difference between the views of male and female respondents for statements like 'Need for leadership and development programs to prepare women for board roles' ($p=0.073$), 'Women are reluctant to fight for their career path' ($p=0.069$), 'It is more difficult for women than men to work independently in an organization' ($p=0.152$), 'Men have problems working with female board members', ($p=0.472$), 'Women have less freedom to pursue their careers due to family responsibilities' ($p=0.268$), 'Women in top management (board) lead to better risk management' ($p=0.327$), 'During the board meeting, men hardly pay attention to what women have to say' ($p=0.066$), 'Women have to be extra well-prepared to

look professional and get others' attention', ($p=0.096$). The p value for these statements is more than 0.05 indicating that male and female respondents equally agree with these statements and there is no difference in the viewpoints. This indicates both male and female respondents equally view that women in top management are good in risk management as they are usually more risk averse, there is more need for leadership programs for women for board roles, agreeing to the statement that women are indeed sometimes reluctant to fight for their career, women indeed have less freedom to pursue their careers due to family responsibilities, however both equally disagree with the statements like Men have problems working with female board members or Women have to be extra well-prepared to look professional and get others' attention. Thus, there is significant difference in views of male and female respondents for ten statements thereby rejecting the null hypothesis and fails to reject null hypothesis for remaining 8 statements.

Hypothesis testing between type of industry and about the way women are perceived in the role of board member or when getting promoted to board level.

H₀: There is no significant difference between manufacturing and service industry about the way women are perceived in the role of board member or when getting promoted to board level

H₁: There is significant difference between manufacturing and service industry about the way women are perceived in the role of board member or when getting promoted to board level

Since the data was not normally distributed Mann-Whitney U test was conducted to find out if there is significant difference in views of manufacturing and service industry about the way women are perceived in the role of board member or when getting promoted to board level.

Table 84 presents Mann-Whitney U test results to check if there is significant difference between Manufacturing and service industry about the way women are perceived in the role of board member or when getting promoted to board level.

Since the p value for all the statement is above 0.05, Researcher fails to reject the null hypothesis indicating that there is no significant difference between manufacturing and service industry about the way women are perceived in the role of board member or when getting promoted to board level.

Table 84

Mann Whitney U test Statistics of Industry Type and its Views on The Way Women are Perceived in The Role of Board Member or When Getting Promoted to Board Level

Variable	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Women receive more unfair judgments of their work performance than men	260.5	351.5	-0.256	0.798
Negative perceptions and stereotypes about women's professional capabilities lead to barriers	214.5	1117.5	-1.205	0.228
During the board meeting, men hardly pay attention to what women have to say	255	1158	-0.37	0.711
Women have to be extra well-prepared to look professional and get others' attention	265	1168	-0.163	0.871
Women need to show more accomplishment than their male counterparts for promotion	262.5	353.5	-0.215	0.83
Negative perceptions and stereotypes about women's commitment towards their career	265.5	356.5	-0.153	0.879
Organization face difficulties assigning outstation/overseas projects to women	205	1108	-1.391	0.164
It is more difficult for women than men to work independently in an organization	263	1166	-0.209	0.835
Women get fewer opportunities than men for professional development at work	264.5	1167.5	-0.174	0.862
At work, men receive more organizational support and trust than women	250.5	341.5	-0.462	0.644
Paternalistic society creates hurdles for women to reach the top	268	1171	-0.102	0.919
Women usually leave their careers when at the peak	268.5	359.5	-0.096	0.924
Need for leadership and development programs to prepare women for board roles	214	1117	-1.255	0.209
Women are reluctant to fight for their career path	209	1112	-1.31	0.19
Women are less acceptable than their male counterparts in leadership roles	253.5	1156.5	-0.397	0.691
Men have problems working with female board members	248.5	1151.5	-0.504	0.614

Variable	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Women have less freedom to pursue their careers due to family responsibilities	271	1174	-0.042	0.967
Women in top management (board) lead to better risk management	263	354	-0.208	0.835

Impact of Women directors on Financial Performance of the Companies

Various research studies suggest that improving gender diversity on boards have positive impact on the financial performance of the firm. Based on various literature reviews ROA (Return on Assets), ROCE (Return on Capital Employed) and ROE (Return on Equity) were considered for measuring the financial performance of the firms.

Return on Assets (ROA): The return on assets ratio is typically expressed as a percentage calculated by dividing company's net income and average assets. Various research studies have considered ROA for measuring the performance of the firm (Adams & Ferreira, 2009; Simionescu, Gherghina, Tawil , & Sheik, 2021; Chatterjee & Nag, 2023).

ROA = Net Income / Average Assets

Return of Equity (ROE): The return on equity is another important financial metrics that is used to measure the financial performance of the firm. It is calculated by dividing company's net income by shareholder's equity. Research studies on gender diversity on boards and firm performance have also used ROE along with ROA for measuring financial performance of the organization ((Adams & Ferreira, 2009; Simionescu, Gherghina, Tawil , & Sheik, 2021; Chatterjee & Nag, 2023).

ROE = Net Income / Shareholders' Equity

Return on Capital Employed (ROCE): The return on capital employed is profitability ratio expressed in percentage which measures how efficiently the organization is using its capital to generate profits. Some research studies have also used ROCE for measuring performance of the organization (Das P. , 2019).

ROCE= Earnings before Income & tax/Capital Employed

Table 85

Descriptive Statistics, Normality Test of Women Directors and Financial Performances ROA, ROCE and ROE Across Respondent Companies

	N	Mean	Std. Deviation	Shapiro-Wilk
ROA	55	-17.94	184.72	0.00
ROCE	55	15.00	11.25	0.00
ROE	55	10.00	11.35	0.00

Table 85 provides descriptive statistics about Women directors and financial performances of the companies ROA, ROCE and ROE for 55 listed companies. With help of Shapiro-Wilk it is visible that p value (0.00) is less than critical value (0.050) indicating that the data is not normally distributed. Therefore, non-parametric test Mann-Whitney U test was conducted to test the hypothesis.

Hypothesis Testing to find out significant differences in financial performance ROA, ROCE and ROE of companies with less than 2 women directors and companies with 2 or more women directors on board.

H₀: There is no significant difference between financial performance ROA, ROCE and ROE of companies with less than 2 women directors and companies with 2 or more women directors on board

H₁: There is significant difference between financial performance ROA, ROCE and ROE of companies with less than 2 women directors and companies with 2 or more women directors on board

Table 86 presents the Mann-Whitney U test results on impact of women directors on the financial performance ROA, ROCE and ROE for the listed companies (n=55). The Mann-Whitney U test converts scores into ranks while ignoring the grouping variable (companies with less than 2 women directors and companies with 2 or more-women directors), and then it compares mean rank of each group.

Table 86

Mann-Whitney U Test on Impact of Women directors on The Financial Performance ROA, ROCE And ROE of The Listed Companies Across Respondent Companies

Test Statistics^a			
	ROA	ROCE	ROE
Mann-Whitney U	298.000	361.000	321.000
Wilcoxon W	859.000	614.000	882.000
Z	-1.117	-0.034	-0.722
Asymp. Sig. (2-tailed)	0.264	0.973	0.471
a. Grouping Variable: Average Women directors			

The p-values for all the three financial metrics (ROA=0.264, ROCE=0.973 and ROE=0.471) are greater than 0.05 indicating that there is no significant difference in ROA, ROCE and ROE between firms with less than 2-women directors and firms with 2 or more-women directors on boards.

The presence of more than 2-women directors in firms does not appear to have a statistically significant impact on ROA, ROCE and ROE over the five-year period. Thus, the data does not provide strong evidence of a relationship between the number of women directors and financial performance indicators (ROA, ROCE, ROE). Therefore, we will fail to reject the null hypothesis indicating that there was no significant difference on ROA, ROCE and ROE of companies with less than 2-women directors and companies with 2 or more women directors. The results are similar to previous research study on Mining and Minerals listed companies where women directors did not have significant impact on the financial performance of the firms (Rawat & Sharma, 2019).