

The Impact of Gender-Diverse Leadership on Innovation in the Indian It Industry

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ABSTRACT

In this fast-growing digital world and with the generative artificial intelligence picking up rapidly, innovation becomes crucial for the software industry. And as inclusion being the buzz globally, the challenges with gender diversity needs to be addressed. This paper aims to study the impact on innovation in the software industry with gender diversity, majorly focusing on the Indian IT industry and the gender diversity at the management level. Gender diversity and innovation will also have an impact on organization performance in the Indian IT market. The rate of innovation can vary from region to region based on multiple factors like the gender diversity gap at the executive levels. The study will be based on qualitative approach with the process of interviewing 51 samples, including male and female IT professionals from different range of ages, roles, and experiences representing all the sections like service and product-based companies. The conclusion of this study will help small and large organizations to plan different strategies around balancing the gender ratios at organization level, roadmaps for present and future innovations in the software world. This paper will provide path for more such research for the IT industry.

Keywords: Gender Diversity, Innovation, Commitment, Organization Performance, Leadership

INTRODUCTION

With Generative Artificial Intelligence making a great progress, the expectations for innovation in software development increases to a great level in the coming future. And, with agile methodologies, the speed of innovation needs to be more than the expectation to be ahead of customer needs, be it a software development or its maintenance or providing the required support to the end customers. Diverse leadership brings in diverse perspectives. This paper aims to find the impact on innovation in the businesses due to gender diverse leadership involvement focusing on Indian IT industry.

Having a balanced diversity in the IT industry will highlight the readiness for a progressive society. As per the statistics produced, the Indian IT industry has generated 49 billion USD in the year 2022 and was estimated to be 51 billion USD by the end of FY23 (Statista Website, August 2023). In the Indian Union Budget 2023-24, the allocation for IT and telecom sector stood at Rs. 97,579.05 crore (US\$ 11.8 billion) (Ministry of Commerce and Industry, Government of India, 2024). These new additions to the policies, like increase in the maternity leave plans from the Indian government and support through the budget allocation will help reduce the gender gap in the IT workforce (Dreze, Khera, Somanchi, 2021). If we talk about the future estimates, this revenue is expected to cross 200 billion USD in 2024. With this exponential growth of Indian IT industry, we can expect the women's representation in the management roles to improve. The female leaders comprise approximately 17% of the overall leadership cohort within the IT market (Atal, Berenguer, and Borwankar, 2019). Organizations have started including the innovation term in the vision and mission statements along with having new roles like chief innovation officer. The involvement of female gender at leadership level can support this to have better cultural diversity with more of innovation. The improving diversity of AI open-source software projects, in terms of gender, race, geography is essential to improve the quality of these projects and their sustainability (Adams and Khomh, 2020).

Innovation is always required to stay relevant to the market and ahead of need. Diverse gender leadership and higher commitment results to more trust and better performance (Toga, Qwabe, and Mjoli, 2014). When employees feel valued for their diverse perspectives and backgrounds, they are more engaged and satisfied with their work, leading to higher levels of commitment (Snaebjornsson and Edvardsson, 2013).

This paper has accessed the situation of the IT industry in India with respect to the gender diversity. The study aims to highlight the areas to focus on improving the involvement of leaders with balanced gender representation for not only

decision-making but also managing large teams for new innovations and delivering excellence. The study explored the impact of diverse leadership on employee's organizational commitment, trust, innovation, and creativity. The outcomes of this study provided a pathway for the existing and upcoming companies to focus on the gender ratio in their road maps and organization growth plan. This study also expanded the literature related to the gender distribution in the IT industry across, focusing on Indian market, which is currently very limited even though this topic is of great importance in the further development of the industry and the nation.

1. Motivation behind Study

In last two decades we have observed lot of improvement in the gender equality in India market. However, it further needs more study, improvement plans and opportunities. With all these studies we observe that there is a relationship between gender diverse leadership, trust, commitment, innovation, and organization performance.

Regarding impact of gender diversity on innovation, the study by Garcia, Moreno, and Martinez (2013) states that incremental innovation is not impacted with gender diversity in a same way as radical innovations. At the same time, the studies by Griffin, Li, and Xu (2021) have a major observation that the firms with gender diverse boards have a greater number of patents and innovation efficiency. We see inconsistency in these findings.

Regarding the impact of Innovation on Organization Performance, the studies by Gfrerer, Rademacher, and Dobler (2021) provide insights about innovation through digital transformation, which are the need for company's sustainability and better performance with the contribution of female managers. The study by Striebing, Schmidt, Palmen, Holzinger, and Nagy (2020), provides in-depth information about the policies around gender equality and innovation capacity in the organizations. However, these studies do not show relationship between innovation and organization performance.

Regarding the impact of gender diversity on organization performance, the study by Gomez, Lafuente, and Vaillant (2018), indicated that having gender diversity affects business performance positively. But the survey in this study was conducted only with one organization from one country as a sample. So, further research is needed in this area as well. The study by Joy and Abbas (2016), is focused only on the HR department in the IT industry.

Regarding the impact of trust and commitment on organization performance, the study by Tezergil, Kose, and Karabay (2014), concludes that the impact of trust is positive on employee commitment but does not relate this to performance. Also, this study was restricted to only one nation.

To summarize, the gaps we observe in all these literatures are:

1. Having lack of detailed study around gender diverse leadership in Indian IT industry.
2. These studies lack to check on the relationship between –
 - Gender Diversity and Trust, Commitment, Innovation,
 - Trust, Commitment, and Innovation
 - Gender Diversity and Organization Performance
3. There aren't enough samples from the IT market to investigate the link between trust, commitment, innovation, and organization performance.
4. All demographic variables like age, gender, education, and work experience are not considered for the Indian sample in these studies.

This study aimed to investigate the relation between gender diversity and innovation with the variables like trust, commitment, and organization performance.

REVIEW OF LITERATURE

To be ahead of market in terms of innovation, it is important to balance the gender ratio. The findings of this study can show new paths for improvement on innovation strategies.

3.1 Impact of Gender diversity at Executive levels on Innovation

As per the authors of the journal related to Innovation and Gender Diversity at Management level (Ruiz-Jimenez and Fuentes-Fuentes, 2016), the gender diversity in the top management team moderates both product and process innovation positively. A sample of 205 Spanish SMEs from technology sectors and a hierarchical regression analysis were used to test the hypotheses. The management capability is enhanced with equal ratio of men and women participating in the innovation of product or process. The study also tries to understand the factors of the management capabilities impacting the organization's achievements. The variables being used were Innovation Performance, Management Capabilities, and Gender diversity to analyze the data collected. It tries to contribute to the evidence that assesses the effect of gender diverse top management teams on innovation. The findings are in line with the hypothesis

that effective management capabilities generate new innovations at the firm. Gender diversity in top management simulates better communication, trust, and new ideas. It is providing multiple working styles and different point of views. However, there wasn't a direct link of management gender diversity with the innovation. There are other factors too impacting here that needs more study.

Innovations lead to increase patents globally. When there is gender diversity in the organization's executives, it will add to more discussions around innovations in multiple areas and hence that leads to addition to the number of patents. This concept is applicable across domains, markets, and countries. This is illustrated in a study, wherein the authors examine the relationship between gender diversity and corporate innovation, has a major observation that the firms with gender diverse boards have a greater number of patents and innovation efficiency (Griffin, Li, and Xu, 2021). It also says that gender diverse boards witnesses more diverse innovation as different perspective comes into count with gender diverse leaders. The data was examined from 45 different countries, within and cross-country board characteristics. The sample was collected from multiple sources. This study has a large amount of data and analysis with information. However, it has limitations, such as the study is looking at innovations that were part of patents. It is not focusing on any one industry like the software development sector.

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Groups focusing on R&D work in software or hardware technology industries need to be very innovative to achieve their respective goals. Now, innovations can be smaller which means that changes can happen in small increments. Gender diversity plays important role in radical innovations too.

This very concept is proved by the authors of a journal on gender diversity within R&D teams, (Garcia, Moreno and Martinez, 2013) have studied about the gender diversity with R&D teams and its impact on innovation. It states that gender diversity in R&D team is leading to radical innovation positively. However, incremental innovation is not impacted by gender diversity in a similar way.

The innovation efficiency can also be varied based on the gender ratio involved in the innovation process. There has been a positive link between a balanced gender ratio and innovation efficiency.

The authors of the study on gender equality affecting the research and innovation systems (Bührer, Schmidt, Palmen and Reidl, 2020), discuss the two major German flagship programs that aimed at increasing female researcher participation. The theory-based evaluation approach was adopted in identifying gender equality and its impact innovation. The study analyzed several women leaders to check whether an increase in their proportion can affect innovation. The findings suggest that the increase in female researchers improved female publication and citation rates. It is observed that the gender diversity in R&D teams can promote innovation efficiency through different processes increasing innovation efficiency. The positive effect of gender diversity on innovation efficiency is stronger with intense work task (Xie, Zhou, Zong, Lu, 2020).

There are certain limitations to the study, such as not all factors are being considered. Only programs implemented in Germany are considered. Only university and non-university professors were majorly considered. Information Technology was not related here.

The innovation is driven by employees at a firm. As per the authors of the paper on the effect of gender diversity and gender equality on firm innovativeness, the innovation process is driven by employee knowledge (Hayashi, Vermeulen, and Knoben, 2019). The knowledge and the experience of individual employees add to the initiatives around innovation (Leonard, and Sensiper, 1998). The knowledge of employee is a critical part of innovation not only at individual level but also at group and org level (Ipe, 2003). It has also been observed that diversifying the internal and external knowledge pool (Milliken and Martins, 1996) has benefited innovation in the developing countries (Fernandez, 2015). Another study states that gender diversity within R&D teams results in high levels of innovation in IT industries (Díaz-García, Moreno, Martinez, 2013). For the Indian IT industry wherein, we now see better access to education for girls, we expect better gender equality and its impact on innovation. More the contribution from all the genders equally, better will be the knowledge pool which is a driver for any firm for innovation (Ritter-Hayashi et al., 2019).

As per the Human capital theory (Becker, 1964), diversity in education, skills, experiences, and capabilities improves the organization performance. Diversity being of multiple forms and gender one of its forms (Erhardt et al., 2003). The judgement and decisions making gets affected by the profiles of board of directors (Harjoto et al., 2015). Female directors with qualitative approach may have a better influence in the firm's decisions leading to firms' better performance (Khandelwal et al. 2023). They can also have decisions in investing in innovative projects. They also bring not just higher levels of knowledge and qualifications but also expertise required for business growth (Pandy et al. 2022). They are likely to contribute to firm's innovation and creativity levels (Hillman et al., 2002). Women may

also add on to more resolution options within a firm's complex issues and strategic decisions (Daily and Dalton, 2003). As per the resource dependence theory, directors provide advice creating communication channels with external groups that effect the firm's performance (Pfeffer and Salancik, 1978). This will also lead to having a larger networks and external connections which may offer many more innovation opportunities. Firms with gender diverse boards also carry higher number of patents with greater innovation efficiency. From the 21 emerging economies, Attah-Boakye et al. (2020), it is observed that female directors enhance the innovation levels. Bouchmel et al., (2022), show that women in board increase the expenditure for innovation to generate more patents. On the other hand, Bianchi et al. (2012) found that a board with more females does not have much impact on investment for innovation. At the UAE banks, it is found that there is no relation between women leaders and innovation Iren and Tee (2018). Galia and Zenou (2012) show that there is no impact of product innovation but has positive impact on innovation for marketing. Almor et al. (2019), say that there is a negative impact on R&D investments. From the human capital and resource dependence theory, we can assume that women directors bring in more knowledge, qualifications, expertise and creativity for innovation along with larger connections with external groups driving more offers.

3.2 Impact of Gender Diversity on Organization Performance

Gender diversity of the leadership team can impact the overall performance of the organization. A gender balanced team of executives will have a positive link to the organization performance.

Better business growth can be planned well with proper involvement of both male and female leaders.

The study conducted by the authors on Gender Diversity in Board aims to investigate how gender diversity in top management affects business performance (Gomez, Lafuente and Vaillant, 2018). A sample of 54 Colombian public businesses for the period 2008-2015 was considered in this analysis. The findings indicate that having gender diversity affects the business performance positively. It is observed that there is a positive effect on the business performance when there are women's representation in the boardroom, which means at the top leadership management level.

The study is also trying to understand where women's presence is lacking and the possible reasons for such underrepresentation. This study proves the hypothesis that gender diversity is positively affecting the business growth with certain limitations, like the collected data does not directly contribute to the organization's strategy making or business growth. There is no evaluation of selection process of top management members. This data is limited to the Colombian region for a defined period of 2008 to 2015 only.

The foundation of people performing certain career is linked to their education. There needs to be a balance in gender ratio right at the education level so that we can expect a similar ratio to carry forward in the jobs. Having an educational background of computers and related subjects is crucial in the IT industry.

The authors of a paper, trying to study the gender equality in Information Technology sector (Reinen and Plomp, 1997) have considered the data for the study sources from the International Association for the Evaluation of Educational Achievement (IEA), where the gender in education from many countries has been investigated. The findings in this study indicate that females know less about information technology and are less interested in computers and its software compared to the male students. The parental support, access to computers, amount of female role models and computer activities carried out at school can be a few causes for such a scenario. The authors stresses on the point of raising awareness about this to both teachers and parents for taking the right actions to create the gender equality. The data was collected from an international comparative survey of computers in education. It included data from 30 countries from 1989 and 1992.

The findings indicates that the concerns of many educational practitioners about gender equity are genuine. The study provides possible root causes and few solutions to improve the gender inequality in the Information Technology. This study has many limitations, like, the study is very old and now the scenario would have changed. It is considering data only for survey from one organization.

Another paper tries to examine whether gender influences the innovative human resource practices of employees. India has the advantage of cheaper software engineers compared to many other nations in the IT industry. Also, the software sector has provided a healthy environment to women employees because of its gender equality-oriented practices. The sample collected was from a survey form for 400 employees working in 15 IT firms. The data was captured with the help of structured questionnaires. Data analysis was carried out with the help of one-way ANOVA using SPSS software. This study finds that gender has an influence on the perception of innovative human resource practices of employees. It further states that female employees perceived higher levels of the importance and satisfaction of innovative HR practices compared to that of male employees working in the IT industry (Joy and Abbas, 2016). These results show that practices promoting gender equality have been effective. However, this study has few limitations. It is considering only the HR innovative practices and not about the innovation in software development. Women at leadership level are also not part of consideration.

Whether an organization is well established, growing or a start-up, each one needs to focus on creating an inclusive and diverse environment that can lead to better performance of organization. Inclusion of women leaders will have a positive effect on performance.

One such study investigated the influence of gender diversity in the board on the organization's performance (Simionescu, Gherghina, Tawil, and Sheikha, 2021). The study was performed using a sample of Standard & Poor's 500 companies belonging to the information technology sector for over 12 years. The method used was the pooled ordinary least squares (OLS), and the outcomes showed a positive influence of the presence of women on the board on the company's performance. The sample included all IT companies covered by Standard & Poor's 500 Index. 71 companies were considered during the period of 2009 to 2020. The quantitative data was captured from the Bloomberg database. A robustness evaluation was also carried out employing panel data fixed-effects and random-effects regression regarding the impact of board gender diversity on ROA. Many other corporate governance variables and firm-level control measures were considered as variables. The study concludes with a positive effect on women company performance. The study also provides policy suggestions for further improvement as it can enhance productivity, creativity, and innovation. The diversity at senior management with the adoption of different practices positively impacts the organization performance (Nishii, Gotte, Raver, 2007).

However, there is no strong link between board gender diversity and Return on Assets, but a positive impact of diversity on price to earnings ratio or increase in profits was found. This study does not focus on innovation performance.

At workplace when there is discrimination based on type of work and gender, that leads to loss of trust and motivation in the work force. This will act as a barrier to the career growth of the individual as well as for the organization performance. It can result in lowering the team performance too. This is illustrated in the research on workplace gender diversity with its benefits and policies around it (Fine, Sojo, and Smith, 2020). This study clarifies that any categorization of gender at work may lead to negative organizational outcomes, via a loss of trust or cooperation. This study states that female representation can also be impacted based on few other factors like industry's financial indicators, such as industry type or size.

Now, this literature too does not consider samples or studies from Indian IT market, and this is a limitation here. There has been numerous positive impact of gender diverse board on the firm's performance in multiple countries like France (Sabatier 2015), Russia (Garanina and Muravyev 2021), the UK (Brahma et al. 2021), Mauritius (Mahadeo et al. 2012), China (Liu et al. 2014), and India (Sanan 2016; Sarkar and Selarka 2021). The performance is measured in terms of ROA and ROE, market performance metric Tobin's Q (Tobin 1969), or a combination of these indicators. An analysis carried out by Low et al. (2015) on board diversification and organization performance in East Asian countries like South Korea, Hong Kong, Malaysia, and Singapore. They too state that there is a positive impact of females in the board on the ROE especially in the nations with limited involvement of women in economy growth. Belaounia et al. (2020), analysed companies across 24 countries and found that firms with greater female directors outperform in overall organization's performance with increased ROA. Also, Tobin's Q. Terjesen et al.'s (2016) research on companies from 47 countries shows that gender diverse leadership impact positively on Tobin's Q and ROA indicators. Pucheta-Martínez and Gallego-Álvarez (2020) also associated women's presence in board and organization performance by analysing companies from 34 countries.

Top management is also the decision makers. Monitoring of managers is observed to be better with diverse boards as they also have increased independence (Carter, Simkins, and Simpson, 2003). Diversified boards impact the organization performance and value which enhances the stakeholder's confidence (Hassan and Marimuthu, 2014). On the other hand, research on women in board rooms and their impact on performance found that gender diversity resulted in poor firm performance (Adams and Ferreira, 2009). Gender diversity in board results in acting on the responsibility effectively (Marimuthu and Kolandaisamy, 2009). Ambiguity is visible in this previous research regarding issues at the board level (Hassan, Marimuthu, and Kaur Juhl, 2015). These studies in the past used older techniques to investigate the diversity issue. It is required to re-assess the situation with different sample size (Hassan, Marimuthu, and Kaur Juhl, 2015).

3.3 Impact of Innovation on Organization Performance

Businesses need to become digital not just to be relevant to market but also to stay ahead. The software in production should be ready to incorporate the new features based on customers need. There are multiple challenges in such a transformation right from the limited budget to the lack of knowledge. Diversity in gender can support the teams to overcome these challenges as it creates a smooth platform for open discussions to resolve the issues.

As per the study in the research paper related to Innovation and Digital Leadership (Gfrerer, Rademacher and Dobler, 2021), Managers have been facing challenges in digital transformation and innovation. The study says that gender diverse management can provide assets required for an impactful innovation. The authors have explored the digital

leader concept from the perspective of female managers. The data is based on qualitative pre study with 5 female managers and a quantitative online survey of 90 female managers. This included five female managers as change initiatives experts in corporations from four industry sectors – Media, Information Technology, Telecommunication and Strategy Consulting. The study concluded that the female managers believe that leadership is perceived differently from that of male managers. Diversity is necessary at management and leadership level. Curiosity and interest act as success factors. They also found that there is a lack of female role models, and that concerns digital transformation and innovation. As far as limitations are concerned, there are few, like the study was conducted only with DUCH region female managers. There are no findings on the relationship between gender diversity and innovation.

There was an influence on the women proportion among researchers in these countries (Striebing, Schmidt, Palmen, Holzinger, and Nagy, 2020). However, the aggregated gender equality interventions alone cannot explain the development of the proportion of female researchers. The study does not link innovation to organization performance, and gender inequality. Only four countries were considered for a limited period.

Innovation keeps organization's contribution relevant to the society. The innovation can be either to prove the process or the product. In both the scenarios, there will be visible improvement in the organization's performance. As per the study on innovation and organization performance and its relationship (Suhag, Solangi, Larik, Lakho, and Tagar, 2017), product innovation, process innovation has a positive impact on organization performance. This study too has a limitation that it is not considering the IT industry.

The CEO's gender too matters when it comes to firm's decision-making and innovation capabilities. The finding claims than female CEOs tend to be greater risk takers being more aggressive compared to male CEOs (Ting, Azizan, Kweh, 2015). The innovation benefits to a firm emerges with increased female representation (Boffa, Papa, Corsi, Mueller, 2023). Another study states that a woman on the board influences inclusive innovation (Fuentes, Garcia, Lara, Chicon, 2023).

Typically, innovation is any a small or big change in an existing process or product that helps in easy or work or leads to better outcomes. Innovation need not be just an automation.

In a video session by one of the leaders in software testing, the speaker states that in last couple of decades innovation has been synonymous with automation. We can think of Innovation beyond Automation but automation as strong Foundation (Venkataraman, 3.07, "Expanding the Horizon of Innovation in Testing", LambdaTest, 31-Aug-2023). Innovation is no more just Automation in today's era of GenAI.

Innovation at an org level impacts the org performance. Such organizations where innovation is at higher levels, not only have better organization performance but also are competitive with the progress of market (Hurley and Hult, 1998). There is adverse impact on firm performance when there is lack of support for innovation. (Loof and Heshmati, 2002). Similarly, Laban and Deya (2019) found that innovation in market, product and process is the most common predictor of organizational performance. The studies by Hurley and Hult (1998) supported the relationships of innovation and performance where the results were determined using econometric methods (Loof and Heshmati, 2002). However, some studies identified a relationship between innovation features like speed to design, innovation to flexibility and not between innovation and performance (Danneels and Kleinschmidt, 2001).

We observe multiple gaps in the literature. Firstly, there is lack of detailed research and paper available around gender diverse leadership and innovation in Indian IT industry. As this industry has been growing exponentially in the recent years, more samples should be considered for understanding the situation and improvement areas. There is no study carried out considering all demographic variables. A detailed study is needed to investigate the relationship between these variables, gender diverse leadership, innovation, Organization performance. The impact may also vary based of level of trust and commitment in employees.

2. Method of Study

4.1 Participant Selection

Adapting the qualitative research method with the focus on Thematic analysis method was selected as it is a flexible approach of analysing the collected data. This method helps to identify the themes and the codes in qualitative data (Terry, Hayfield, Clarke, and Braun, 2017). This method suits well for exploring the perspectives of individuals based on their various experiences. It helped in breaking the collected data into meaningful pieces of information required to analyse and understand individual thoughts.

The approach was to have purposive sampling to collect the required data. This nonprobability sampling technique was useful for randomization as the Indian IT population is very large (Etikan, Musa, Alkassim, 2015). Also, this research had limited and defined timelines for completion. In such a case, Purposive sample and qualitative research is a better

fit. Purposive or judgment sampling technique include the targeted participants with certain experience in the Indian IT industry. 51 samples were telephonically interviewed, and responses were captured to analyze.

The questions were grouped into sections like –

- 1- Background and Team Dynamics
- 2- Gender Ratio in the teams
- 3- Innovation
- 4- Trust and Commitment
- 5- Organization Performance

Pre-defined sets of questions were asked. The closed ended questions were answered on a scale of 1 to 5, 1 being the least and 5 being the best. Each section was having around 5 questions. The sample data was analyzed to study the impact of gender diversity on different variables like Innovation, Organization Performance, Employee Trust, and commitment. Questions were designed based on current Indian IT industry trends and were reviewed by the experts.

4.2 Data Collection

The sample data collected were from 51 IT professionals from Indian IT markets representing major tech companies from the software industry. The samples included from different gender - male and female IT professionals from different range of ages, roles, and experiences representing all the sections like service and product-based companies. Social media platforms like WhatsApp, Telegram, LinkedIn, Google Forms, Google Meet were leveraged for conducting the interviews.

All the participants were informed about the research and the study, consent was obtained from all participants. The purpose, process, potential risks and benefits were informed to them. Option to be a volunteered were provided. No miss use of any data was assured. Confidentiality and anonymity of participant data were strictly maintained in this study.

All collected data were treated with the utmost confidentiality, and personal identifiers was not considered to ensure anonymity (Neuman, 2013).

4.3 Data Analysis

Collected data was analyzed to arrive at meaningful outcomes and conclusions. Proper analysis of the data can only provide accurate results. The data screening and cleaning was also performed. Since this study is based on qualitative analysis approach, the data collected from the interviews were in text and audio format. Hence, just the Google Meet, Microsoft word and excel were sufficient as the tool set here in this case.

The respondents were from various backgrounds within the Indian IT industry. The respondent profiles vary in the ranges of different age groups, work experiences, gender, roles and responsibilities at workplace.

4.3.1 Gender of Respondents

The gender ratio of the respondents was 22:28 (male:female) based on the response of 51 participants.

Table 1 [Source: Responses from the participants]

Gender	Number of respondents	Percentage
Male	23	45%
Female	28	55%
Others	0	0%

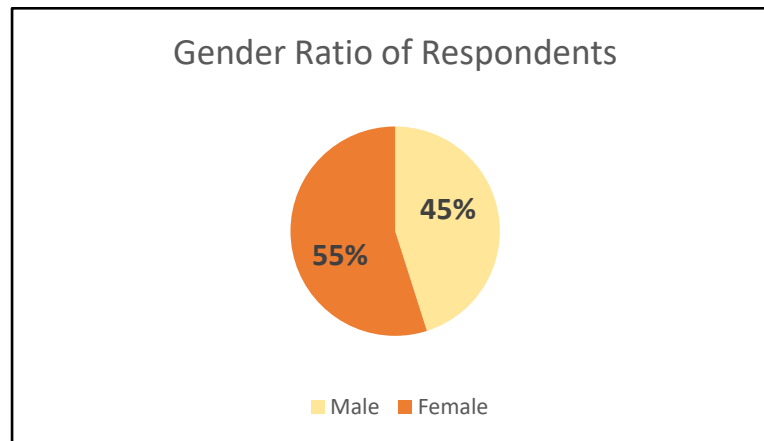


Chart 1 [Source: Responses from the participants]

4.3.2 Age Range of Respondents

The age of the respondents ranged from 25 to 50 years. Maximum respondents ranged in the age group of 36 to 45 years.

Table 2 [Source: Responses from the participants]

Age Group (Years)	Number of respondents	Percentage
18 to 25	0	0%
26 to 35	18	35%
36 to 45	29	57%
>45	4	12%

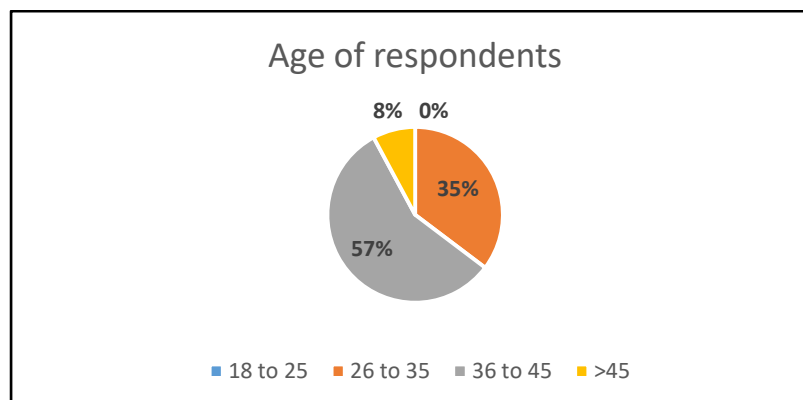


Chart 2 [Source: Responses from the participants]

4.3.3 Work Experience Range of Respondents

The work experiences ranged from less than 5 years to greater than 25 years within IT industry.

Table 3 [Source: Responses from the participants]

Work Experience	Number of respondents	Percentage
< 5 Years	1	2%
> 5 to < 10 Years	6	12%
> 10 to < 20 Years	39	78%
> 20 to < 25 Years	3	6%
>25 Years	1	2%

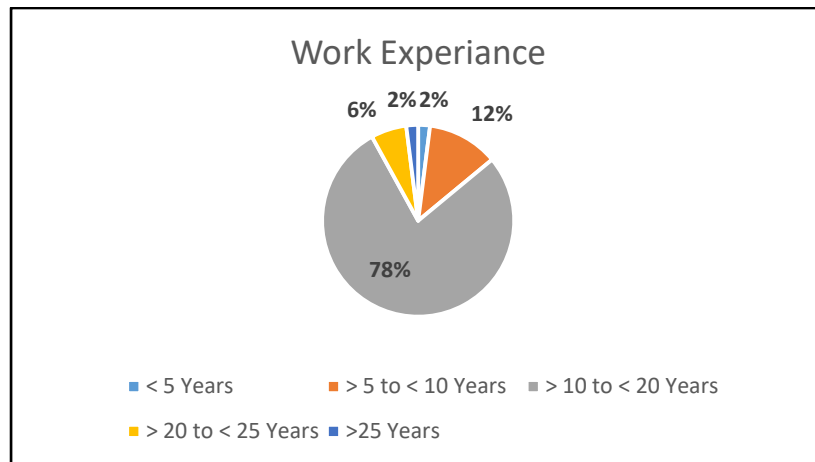


Chart 3 [Source: Responses from the participants]

4.3.4 Educational Qualification of Respondents

The educational background of the respondents was also captured to understand the range of IT employees participating in the interviews.

Table 4 [Source: Responses from the participants]

Educational Qualification	Number of respondents	Percentage
MBA, MS, M. Tech, MCA or other master's degree	14	26%
B.E/ B.Tech	37	74%

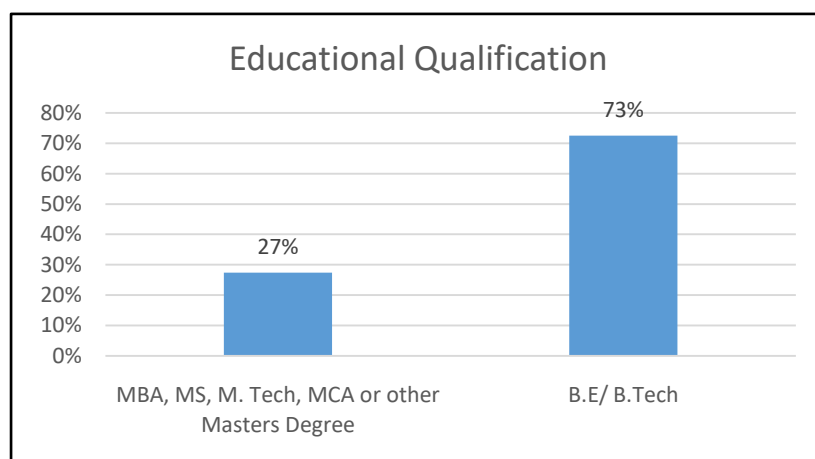


Chart 4 [Source: Responses from the participants]

4.3.5 Job Designations & Job Categories of Respondents

The roles and responsibilities of every participant kept varying. Based on these variations, the job designation too varies from an entry level employee to chief officer levels.

All the responses to the questions were analyzed. The questions were asked to gather the thoughts of participants around innovation, trust, commitment, and organization performance in the IT industry in India as a region. This study tried to correlate relationship between gender diversity at leadership level and employees' level of trust and commitment. This helps us to understand the innovation approaches taken by the organizations and how the decision making is driven by Organizations with variation in gender diversity. This also helps us to understand the status of multiple teams with respect to gender diversity and their openness to accept diversity for improvement. These factors affect the organization culture.

Overall, the data analysis of this study's participants has provided valuable information to understand the relationship of gender diverse leadership and innovations happening at organization level.

RESULTS

Categories of initial themes

Table 5 – Themes without Sub Themes

Themes	Gender Ratio and Innovation	Trust, Commitment	Organization Performance
Codes	Defined Process	Transparent Communication	Implementing new changes
	Risk Taking	Motivation	Team efficiency
	Decision Making	Empowering teams	Customer Satisfaction
	Initiatives or Drives for Innovation	Approachable	Productivity Improvement
	More Creative	Empathy	Responsibility
	Personality	Trust	Result Oriented
	Multi-Tasking		Data driven
	Open for change		Resource driven
			Automation
			Rebranding
			Continuous Improvement

Based on the data collected from the participants, analysis is done. Below is a summary.

Table 6

Category	Percentage
Teams with no Female leaders	10%
Teams with female leaders with the ratio less than 1:1 (Male: Female)	59%
Teams with female leaders with the ratio equal to greater than 1:1 (Male: Female)	31%

The observation is that 59% of the respondents are part of teams where in the male: female ratio is not 1:1. There is disparity in the Indian IT industry with respect to gender ratio. We still have many teams in the industry which are completely dominated by male.

Most of the teams are encouraged for innovation and new ideas. It is observed that 8% of respondents feel that they are not encouraged enough to think towards innovative or new ideas. Their suggestions create a way for further discussions or arguments. Their ideas may not take the path to implementation. This very thought can be demotivating many a times. We also had 92% of respondents who feel they are encouraged for innovations. The supporting work environment plays a key role for innovation. Some responses are as below.

“New ideas and development to sales systems (CRM) are evaluated based on need and taken up if they augment existing processes positively.” (Age > 35y, Male, Sales excellence lead)
[Code: Defined Processes]

“Innovation is the USP of our company. We are known for innovation, having said that our team is very eager and enthusiastic for innovation on new ideas or technology.” (Age > 26y, Male, Chief Strategy Officer)
[Code: Motivation]

“Innovation and new ideas are encouraged. However not everything that is discussed is taken to next stage of implementation.” (Age > 26y, Male, Business Analyst)
[Code: Encourage]

Theme 1 – Gender Ratio and Innovation

Most of the respondents agree that women leaders can connect better with the stakeholders. Whereas I also have few responses in disagreement like “No, I do not see gender as a deciding factor to have better stakeholder connection” (Age >25y, Male, Senior Integration Developer).

Also, the gender ratio of the leadership team does not always impact the way the team approaches innovation. There are mixed responses to this area from the respondents.

“No significant impact on innovation. Where it does make a difference is in relationship building with stakeholders and customers. Women naturally tend to be empathetic in approach and have an upper hand in better stakeholder management.” (Age >35y, Female, Senior solutions engineer)

[Code: Empathetic]

There are respondents who are still not in a comfortable zone at workplace. Now, this indicates that there is a lot of scope of improvement.

“In general, when it comes to giving leadership role to women they are often judged. There is always a fear from direct manager about her performance and capabilities. But there are examples where women have taken hard roles and proved their abilities. Things are changing but at a slow pace.” (Age >26y, Female, Office Executive to Business unit head)

[Code: Fear/ Behavioral Disadvantage]

When asked about their observations in any differences in communication, risk-taking, or creativity based on the leadership's gender composition, the responses show that people have not observed any major difference in the way of communication, taking risk, responsibility or being creative for approaching innovations.

We see that 72% of respondents agree that female leaders do not show these talents in the Indian IT industry. Some of the responses are matter of debate and create a pathway for further research.

“I feel men are perceived as more innovative and risk-taking, and women are perceived as more adaptive and risk adverse. So, gender roles may interact with the role of the manager to inhibit or facilitate.” (Age >26y, Male, Engineering Manager)

[Code: Risk Taking]

“Women are more concerned about the final outcome and sometimes it leads to depression or dissatisfaction with team when they fail to achieve something.” (Age >26y, Female, Assistant Manager)

[Code: Result Oriented]

There are individuals who say that for being connected to stakeholders, the gender does not matter.

Theme 2 – Trust, Commitment, and Innovation

The next section of questionnaire was to assess the sense of Trust and commitment in the employees and the way this may impact innovation.

The leadership fosters trust and commitment among team members through various ways. Some of the ways mentioned by them are –

- Transparent and inclusive communication,
- One on one regular connects and feedback,
- Show casing and practicing equality,
- Regular leadership connects,
- Transparent and open communication,
- Regular connect,
- Empowering employees,
- No micromanagement,
- Team bonding activities,
- Leaders being approachable and friendly,
- More involvement of leaders,
- Giving chance even after failure

Open and clear communication help in building trust. Teams are allowed to fail and restart. They should feel empowered to feel motivated. When team members feel connected and bonded, we can expect better outcomes. Empowering employees to make decisions can also lead to more trust and innovative ideas. One of the important factors is mutual trust which impacts commitment too. There were examples shared stating that the trust, motivation led to the achievement of team goal.

When there is responsibility attached to resources, they understand the opportunity to perform better. Some of them also stated that innovation is purely driven by allocated budgets to the team. Trust and motivation can also be linked while working in a group or a team. With trust one can feel the responsibility and try to innovate more. Teams lacking trust are not able to deliver the project as expected and face more challenges.

Theme 3 – Innovation and Performance

This section of was targeted to understand the impact of innovation on organization performance. Understanding what different ways or methods are being followed to measure innovation at scale was important as we know that something which cannot be measured and quantified have no scope of further improvement.

There are teams using different ways to collect innovative ideas. At few places, there were in-house developed tools or portals used to measure the level of innovation. There are few other sets of teams who don't measure innovation.

Measuring innovation does not have any underlined theory or formula. Teams are taking multiple different approaches to measure innovation.

Few more group of people worked with the teams where there was limited scope of innovation. Team members being part of sales have lesser scope to explore new areas in their work line.

Innovation has helped many teams to excel and perform better. Small innovations too have also led to greater success. Some of the teams are taking small steps towards innovation starting with automation of day-to-day tasks.

"Setting up an automation framework to test our product greatly improved the turnaround time for product quality gating." (Age >35y, Male, Senior Integration Developer)

[Code: Automation]

Some also agree that innovation has no link to gender.

"I didn't observe any correlation of gender ratio of the leadership team impacting innovation approach." (Age >35y, Male, Senior Director)

"I didn't observe it as such however if there is a lack of trust or commitment then innovative project cannot survive and it will die sooner or later." (Age >35y, Male, Senior Director)

[Code: Open for change]

People believe that innovation impacts organization performance positively. It helps them to be relevant to the market needs. Customer Satisfaction, Saving, Profits are some of the ways to measure the performance. Other areas that are considered to look at organization performance are customer success, reduced support query, faster resolution of issues, faster go to market of the product/service. People understand that innovation is one of the key organization successes. They cannot sustain without innovating new ideas, products, processes, or services.

Being customer centric is equally important. Overall, the factors like Trust, Commitment, and Innovation impact organization performance. Whereas impact of gender diverse leadership on innovation has mixed reviews and comments.

CONCLUSION

The result of this analysis shows that gender diversity at leadership level does not have major impact on innovation. Openness for new changes or innovation is driven by opportunities at work and the need. Result indicated that people consider female leadership does help in providing comfortable environment to the employees to speak up. Only 29% of participants feel that female leaders are open to new changes.

This finding is similar to the findings in the study by Garcia, Moreno, and Martinez (2013) stating that incremental innovation is not impacted with gender diversity in a same way as radical innovations.

The above findings are also in line with the studies on Innovation and Digital Leadership (Gfrerer, Rademacher and Dobler, 2021), which says that gender diverse management can provide platform for an impactful innovation, but it could not have findings on the relationship between gender diversity and innovation.

The results show that employee's trust and commitment can get influenced with gender diverse leadership. Majority of participants agree that male employees are better at taking risks. However, female employees are more creative. Communication too does not matter much on the gender of the leaders in the team. The work environment is better with female leaders. 65% respondents agree that female leaders are more connected to the stakeholders, and this leads to better trust and commitment in the team members.

This relates to the findings from the research on workplace gender diversity with benefits and policies (Fine, Sojo, and Smith, 2020), where it states that categorization of gender at work may lead to negative organizational outcomes, via a loss of trust or cooperation.

The trust, commitment, and innovation have positive impact on organization performance. Transparent and inclusive communication maintain the high levels of trust and commitment. It is being observed that teams lacking trust and commitment has been struggling to improve organization performance. Innovation has been keeping product or service relevant in the market and increasing the customer satisfaction. With the increase in customer satisfaction, the organization performance has been growing.

Also, as per the study on innovation and organization performance and its relationship (Suhag, Solangi, Larik, Lakho, and Tagar, 2017), product innovation, process innovation has a positive impact on organization performance. Again, in the study on trust and relationship commitment (Cote, Latham, 2006), it was found that both, the team trust and the individual trust are positively correlated with organization performance.

These findings suggest that leaders need to promote innovation at their organizations. To have good working environment for all employees, organizations should focus on having balanced gender ratio at leadership level so that employees can trust and be more committed towards work. Open and transparent communication is required at every level. A balanced gender ratio can create a healthy workplace too.

Innovation has no links with the gender of the leaders. It can be driven by both male and female well. Innovation has high impact on organization performance. In the era of GenAI, being relevant to the market is most important to any product/service/resource and this can be possible only with innovation.

Overall, the outcomes of this study provide valuable insights into the relationship between gender diverse leadership, innovation, trust, and commitment. The study identified ways of maintaining the levels of trust, commitment, and innovations. It also provides improvement areas in Indian IT industry. Team members need to feel empowered to contribute better to the organization goals. Further research will be needed to validate the findings and explore more.

Limitations and Future Research Recommendations

While this study throws light of multiple factors to improve the gender diversity in the Indian IT industry, there exists many limitations too that needs to be considered. Firstly, this study has captured data points from only 51 IT professionals. This data collection is a minute piece of the industry. Extrapolating points from here for larger group may not prove to be relevant. Secondly, this study was focused majorly within Indian IT market. Thirdly, 78% of the collected data is coming from a set of professionals with 10 to 20 years of experience falling into the millennial's generation.

This clearly indicates that more study needs to be carried out with GenZ and GenAlpha professionals. Lastly, the study ignores multiple other factors which are external such as market conditions and economic trends on innovation, recessions pitching in between, working with team members remotely. Despite these limitations, this study is providing valuable insights on gender diverse leaders and its link with innovation. The link between innovation, trust, and commitment with organization performance is clearly visible.

The gender diversity is improving in the IT sector especially in Indian market. However, we still have a lot of scope to further improve and maintain a balance providing equal opportunity to all. One recommendation for future research is to study the possibility of deploying a common tool or portal at market level wherein all organizations can measure their gender diversity and innovation to baseline and plan to work on improvement areas. Conducting surveys through software and tools or by Gartner is not always sufficient to plan the next actions for a larger audience.

Another recommendation is to carry out research on gender diverse leadership based on cultural background as cultural diversity is very huge in India. This may have impact on multiple things like employee continuing for more work experience to reach the leadership level. This can be a challenge to maintain the gender ratio at entry level to leadership level. However, things have improved in last couple of decades, but it still needs to be studied.

More study on impact on innovation due to remote working culture can be carried out as this culture has increased post COVID and may be this has a positive impact. When working people are not connecting on day-to-day basis or just limiting the connect for work, does that have an impact on innovation.

One more study can be focused on types of training plan to improve these two areas at team and org levels – gender diversity and innovation. Trainings around ways for innovation may not be well defined and proven well, but this area too can be studied more. Innovations can be driven from the needs more than from trainings.

REFERENCES

- [1]. Adams, B., & Khomh, F. (2020). The diversity crisis of software engineering for artificial intelligence. *IEEE Software*, 37(5), 104-108.
- [2]. Al Mansoori, M. (2017). The Impact of Leadership Styles Upon Employee Commitment: A case study of the Abu Dhabi Police in the UAE. Liverpool John Moores University (United Kingdom).
- [3]. Ali, M., Kulik, C. T., & Metz, I. (2011). The gender diversity–performance relationship in services and manufacturing organizations. *The International Journal of Human Resource Management*, 22(07), 1464-1485.
- [4]. Alshenqeeti, H. (2014). Interviewing as a data collection method: A critical review. *English linguistics research*, 3(1), 39-45.
- [5]. Arun, S., Heeks, R., & Morgan, S. (2007). ICT initiatives, women and work.
- [6]. Atal, N., Berenguer, G., & Borwankar, S. (2019). Gender diversity issues in the IT industry: How can your sourcing group help?. *Business Horizons*, 62(5), 595-602.
- [7]. Athreye, S. (2005). The Indian software industry. From underdogs to tigers: The rise and growth of the software industry in Brazil, China, India, Ireland, and Israel, 30, 7-40.
- [8]. Braun, V., & Clarke, V. (2012). Thematic analysis. *American Psychological Association. APA handbook of research methods in psychology*, 2, 71.
- [9]. Brown, S., Gray, D., McHardy, J., & Taylor, K. (2015). Employee trust and workplace performance. *Journal of economic behavior & organization*, 116, 361-378.
- [10]. Bühner, S., Kalpazidou Schmidt, E., Palmén, R., & Reidl, S. (2020). Evaluating gender equality effects in research and innovation systems. *Scientometrics*, 125, 1459-1475.
- [11]. Buvik, M. P., & Tvedt, S. D. (2016). The impact of commitment and climate strength on the relationship between trust and performance in cross-functional project teams: A moderated mediation analysis. *Team Performance Management*, 22(3/4), 114-138.
- [12]. Colovic, A., & Williams, C. (2020). Group culture, gender diversity and organizational innovativeness: Evidence from Serbia. *Journal of Business research*, 110, 282-291.
- [13]. Cook, A., & Glass, C. (2014). Women and top leadership positions: Towards an institutional analysis. *Gender, Work & Organization*, 21(1), 91-103.
- [14]. Cote, J., & Latham, C. K. (2006). Trust and commitment: Intangible drivers of interorganizational performance. In *Advances in Management Accounting* (pp. 293-325). Emerald Group Publishing Limited.
- [15]. Crnkovic, I., Kohl Silveira, K., & Sprenkle, S. (2020). Summary of the 2nd Workshop on Gender Equality in Software Engineering (GE 2019). *ACM SIGSOFT Software Engineering Notes*, 45(3), 25-27.
- [16]. De Waal, A. A. (2007). The characteristics of a high performance organization. *Business strategy series*, 8(3), 179-185.
- [17]. del Mar Fuentes-Fuentes, M., Quintana-García, C., Marchante-Lara, M., & Benavides-Chicón, C. G. (2023). Gender diversity, inclusive innovation and firm performance. *Sustainable Development*, 31(5), 3622-3638.
- [18]. Díaz-García, C., González-Moreno, A., & Jose Sáez-Martínez, F. (2013). Gender diversity within R&D teams: Its impact on radicalness of innovation. *Innovation*, 15(2), 149-160.
- [19]. Drèze, J., Khera, R., & Somanchi, A. (2021). Maternity entitlements in India: Women's rights derailed. *SocArXiv v5mc6*. doi, 10.
- [20]. Dwyer, S., Richard, O. C., & Chadwick, K. (2003). Gender diversity in management and firm performance: The influence of growth orientation and organizational culture. *Journal of Business Research*, 56(12), 1009-1019.
- [21]. Fine, C., Sojo, V., & Lawford-Smith, H. (2020). Why does workplace gender diversity matter? Justice, organizational benefits, and policy. *Social Issues and Policy Review*, 14(1), 36-72.
- [22]. Gaio, C., & Gonçalves, T. C. (2022). Gender diversity on the board and firms' corporate social responsibility. *International Journal of Financial Studies*, 10(1), 15.
- [23]. Gallego-Álvarez, I., García-Sánchez, I. M., & Rodríguez-Dominguez, L. (2010). The influence of gender diversity on corporate performance: La influencia de la diversidad de género en el rendimiento empresarial. *Revista de Contabilidad-Spanish Accounting Review*, 13(1), 53-88.
- [24]. Gfrerer, A. E., Rademacher, L., & Dobler, S. (2021). Digital needs diversity: Innovation and digital leadership from a female managers' perspective. In *Digitalization: Approaches, Case Studies, and Tools for Strategy, Transformation and Implementation* (pp. 335-349). Cham: Springer International Publishing.
- [25]. Griffin, D., Li, K., & Xu, T. (2021). Board gender diversity and corporate innovation: International evidence. *Journal of Financial and Quantitative Analysis*, 56(1), 123-154.
- [26]. Herring, C. (2009). Does diversity pay?: Race, gender, and the business case for diversity. *American sociological review*, 74(2), 208-224.
- [27]. Hillman, A. J., Shropshire, C., & Cannella Jr, A. A. (2007). Organizational predictors of women on corporate boards. *Academy of management journal*, 50(4), 941-952.

- [28]. Hunegnaw Kebede, G. (2017). Gender diversity in management positions and organizational performance: A review of literature. *Management Studies and Economic Systems*, 3(4), 245-252.
- [29]. Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.
- [30]. Jaworski, C., Ravichandran, S., Karpinski, A. C., & Singh, S. (2018). The effects of training satisfaction, employee benefits, and incentives on part-time employees' commitment. *International Journal of Hospitality Management*, 74, 1-12.
- [31]. Joy, M. M., & Abbas, B. (2016). Gender equality at work place-Implications for innovative HR practices in information technology sector. In 6th International Conference on Recent Innovations in Science, Engineering and Management (pp. 180-186).
- [32]. Kahn, K. B. (2018). Understanding innovation. *Business horizons*, 61(3), 453-460.
- [33]. Karim Suhag, A., Solangi, S. R., Larik, R. S. A., Lakh, M. K., & Tagar, A. H. (2017). The relationship of innovation with organizational performance. *International Journal of Research-Granthaalayah*, 5(2), 292-306.
- [34]. Kvale, S. (2003). The psychoanalytical interview as inspiration for qualitative research. *American Psychological Association*.
- [35]. Camic, P. M. (2021). Qualitative research in psychology: Expanding perspectives in methodology and design (pp. 275-297). *American Psychological Association*.
- [36]. Lee, H. J., & Peccei, R. (2007). Organizational-Level Gender Dissimilarity and Employee Commitment. *British Journal of Industrial Relations*, 45(4), 687-712.
- [37]. Lorenzo, R., Voigt, N., Tsusaka, M., Krentz, M., & Abouzahr, K. (2018). How diverse leadership teams boost innovation. *Boston Consulting Group*, 23(1), 1-8.
- [38]. Venkataraman, M. (2024, June 15). Expanding the horizon of innovation in testing [Conference presentation video]. *Testµ 2023, LambdaTest*. YouTube.
- [39]. Maji, S., & Dixit, S. (2020). Gendered processes and women's stunted career growth: An Exploratory study of female software engineers. *The Qualitative Report*, 25(8), 3067-3084.
- [40]. Ministry of Commerce and Industry, Government of India. (2024). IT & BPM industry in India. <https://www.ibef.org/industry/information-technology-india>
- [41]. Moreno-Gómez, J., Lafuente, E. and Vaillant, Y., 2018. Gender diversity in the board, women's leadership and business performance. *Gender in Management*, 33 (2), 104–122.
- [42]. Nanda, S. (2014). *Gender diversity: Crosscultural variations*. Waveland Press.
- [43]. Nishii, L. H., Gotte, A., & Raver, J. L. (2007). Upper echelon theory revisited: The relationship between upper echelon diversity, the adoption of diversity practices, and organizational performance.
- [44]. Onunaku, U. I. (2014). *Limitations and stipulations: Unequal pay for equal work for women in the US*. Bowie State University.
- [45]. Prana, G. A. A., Ford, D., Rastogi, A., Lo, D., Purandare, R., & Nagappan, N. (2021). Including everyone, everywhere: Understanding opportunities and challenges of geographic gender-inclusion in oss. *IEEE Transactions on Software Engineering*, 48(9), 3394-3409.
- [46]. Prencipe, A., Boffa, D., Papa, A., Corsi, C., & Mueller, J. (2023). Unmasking intellectual capital from gender and nationality diversity on university spin-offs' boards: a study on non-linear effects upon firm innovation. *Journal of Intellectual Capital*, 24(1), 257-282.
- [47]. Rahman, M. S. (2016). The advantages and disadvantages of using qualitative and quantitative approaches and methods in language "testing and assessment" research: A literature review. *Journal of education and learning*, 6(1).
- [48]. Rai, N., & Thapa, B. (2015). A study on purposive sampling method in research. *Kathmandu: Kathmandu School of Law*, 5(1), 8-15.
- [49]. Reinen, I. J., & Plomp, T. (1997). Information technology and gender equality: a contradiction in terminis?. *Computers & Education*, 28(2), 65-78.
- [50]. Roopa, S., & Rani, M. S. (2012). Questionnaire designing for a survey. *Journal of Indian Orthodontic Society*, 46(4_suppl1), 273-277.
- [51]. Ruiz-Jiménez, J. M., & Fuentes-Fuentes, M. D. M. (2016). Management capabilities, innovation, and gender diversity in the top management team: An empirical analysis in technology-based SMEs. *BRQ Business Research Quarterly*, 19(2), 107-121.
- [52]. Simionescu, L. N., Gherghina, Ş. C., Tawil, H., & Sheikha, Z. (2021). Does board gender diversity affect firm performance? Empirical evidence from Standard & Poor's 500 Information Technology Sector. *Financial Innovation*, 7, 1-45.
- [53]. Snaebjornsson, I. M., & Edvardsson, I. R. (2013). Gender, nationality and leadership style: A literature review. *International Journal of Business and Management*, 8(1), 89.

- [54]. Statista - Technology and Communications – IT services (2023) Domestic revenue of the information technology industry in India from financial year 2019 to 2022, with estimate of 2023. <https://www.statista.com/statistics/1407101/india-total-revenue-it-industry/>
- [55]. Striebing, C., Schmidt, E. K., Palmén, R., Holzinger, F., & Nagy, B. (2020). Women underrepresentation in R&I: A sector program assessment of the contribution of gender equality policies in research and innovation. *Evaluation and program planning*, 79, 101749.
- [56]. Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. *The SAGE handbook of qualitative research in psychology*, 2(17-37), 25.
- [57]. Teruel, M., & Segarra, A. (2017). The link between gender diversity and innovation: What is the role of firm size. *International Review of Entrepreneurship*, 15(3), 319-340.
- [58]. Tezergil, S. A., Köse, A., & Karabay, M. E. (2014). Investigating the effect of trust, work-involvement, motivation and demographic variables on organizational commitment: Evidence from IT industry. *International Journal of Business and Management*, 9(12), 111.
- [59]. Ting, I. W. K., Azizan, N. A. B., & Kweh, Q. L. (2015). Upper echelon theory revisited: The relationship between CEO personal characteristics and financial leverage decision. *Procedia-Social and Behavioral Sciences*, 195, 686-694.
- [60]. Toga, R., Qwabe, N. P., & Mjoli, T. Q. (2014). The impact of age and gender diversity on organisational commitment. *Mediterranean Journal of Social Sciences*, 5(1), 657-671.
- [61]. Tucker, C., Olsen, B., & Hale, R. T. (2023). Trust and commitment: a comparative study of virtual team communication across industries. *Team Performance Management: An International Journal*, 29(1/2), 152-165.
- [62]. Clarke, V. (2018, June 15). Thematic analysis – an introduction [Video]. YouTube. <https://www.youtube.com/watch?v=5zFcC10vOVY>
- [63]. Clarke, V. (2017, June 15). What is thematic analysis? [Video]. YouTube. <https://www.youtube.com/watch?v=4voVhTiVydC>
- [64]. Waal, A. D. (2021). The high performance organization: proposed definition and measurement of its performance. *Measuring Business Excellence*, 25(3), 300-314.
- [65]. Watson, R. (2015). Quantitative research. *Nursing standard*, 29(31).
- [66]. Xiao, Y., Zheng, X., Pan, W., & Xie, X. (2010). Trust, relationship commitment and cooperative performance: supply chain management. *Chinese Management Studies*, 4(3), 231-243.
- [67]. Xie, L., Zhou, J., Zong, Q., & Lu, Q. (2020). Gender diversity in R&D teams and innovation efficiency: Role of the innovation context. *Research Policy*, 49(1), 103885.
- [68]. Leonard, D., & Sensiper, S. (1998). The role of tacit knowledge in group innovation. *California management review*, 40(3), 112-132.
- [69]. Ipe, M. (2003). Knowledge sharing in organizations: A conceptual framework. *Human resource development review*, 2(4), 337-359.
- [70]. Fernández, J. (2015). The impact of gender diversity in foreign subsidiaries' innovation outputs. *International Journal of Gender and Entrepreneurship*, 7(2), 148-167.
- [71]. Milliken, F. J., & Martins, L. L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of management review*, 21(2), 402-433.
- [72]. Díaz-García, C., González-Moreno, A., & Jose Sáez-Martínez, F. (2013). Gender diversity within R&D teams: Its impact on radicalness of innovation. *Innovation*, 15(2), 149-160.
- [73]. Teruel, M., Parra, M. D., & Segarra Blasco, A. (2015). Gender diversity and innovation in manufacturing and service firms.
- [74]. Almor, T., Bazel-Shoham, O., & Lee, S. M. (2022). The dual effect of board gender diversity on R&D investments. *Long Range Planning*, 55(2), 101884.
- [75]. Attah-Boakye, R., Adams, K., Kimani, D., & Ullah, S. (2020). The impact of board gender diversity and national culture on corporate innovation: A multi-country analysis of multinational corporations operating in emerging economies. *Technological Forecasting and Social Change*, 161, 120247.
- [76]. Becker, G. (1964). *Human Capital*. Chicago: Univ.
- [77]. Bianchi Martini, S., Corvino, A., & Rigolini, A. (2012). Board diversity and structure: What implications for investments in innovation? Empirical evidence from Italian context. *Corporate Ownership & Control*, 10(1), 9-25.
- [78]. Bouchmel, I., El Ouakdi, J., Ftiti, Z., Louhichi, W., & Omri, A. (2022). The mediating effect of corporate innovation on the relationship between gender diversity and firm performance. *Management international*, 26(1), 102-122.
- [79]. Daily, C. M., & Dalton, D. R. (2003). Women in the boardroom: A business imperative. *Journal of Business strategy*, 24(5).

- [80]. Erhardt, N. L., Werbel, J. D., & Shrader, C. B. (2003). Board of director diversity and firm financial performance. *Corporate governance: An international review*, 11(2), 102-111.
- [81]. Galia, F., & Zenou, E. (2012). Board composition and forms of innovation: does diversity make a difference?. *European Journal of International Management*, 6(6), 630-650.
- [82]. Harjoto, M., Laksmana, I., & Lee, R. (2015). Board diversity and corporate social responsibility. *Journal of business ethics*, 132, 641-660.
- [83]. Hillman, A. J., Cannella Jr, A. A., & Harris, I. C. (2002). Women and racial minorities in the boardroom: How do directors differ?. *Journal of management*, 28(6), 747-763.
- [84]. Iren, P., & Tee, K. (2018). Boardroom diversity and innovation in the UAE banks. *International Journal of Innovation Management*, 22(03), 1850029.
- [85]. Khandelwal, C., Kumar, S., Tripathi, V., & Madhavan, V. (2023). Joint impact of corporate governance and risk disclosures on firm value: Evidence from emerging markets. *Research in International Business and Finance*, 66, 102022.
- [86]. Pandey, N., Kumar, S., Post, C., Goodell, J. W., & García-Ramos, R. (2023). Board gender diversity and firm performance: A complexity theory perspective. *Asia Pacific Journal of Management*, 40(3), 1289-1320.
- [87]. Pfeffer, J., & Salancik, G. (2015). External control of organizations—Resource dependence perspective. In *Organizational behavior 2* (pp. 355-370). Routledge.
- [88]. Belaounia, S., Tao, R., & Zhao, H. (2020). Gender equality's impact on female directors' efficacy: A multi-country study. *International Business Review*, 29(5), 101737.
- [89]. Brahma, S., Nwafor, C., & Boateng, A. (2021). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance & Economics*, 26(4), 5704-5719.
- [90]. Garanina, T., & Muravyev, A. (2021). The gender composition of corporate boards and firm performance: Evidence from Russia. *Emerging Markets Review*, 48, 100772.
- [91]. Liu, Y., Wei, Z., & Xie, F. (2014). Do women directors improve firm performance in China?. *Journal of corporate finance*, 28, 169-184.
- [92]. Low, D. C., Roberts, H., & Whiting, R. H. (2015). Board gender diversity and firm performance: Empirical evidence from Hong Kong, South Korea, Malaysia and Singapore. *Pacific-Basin Finance Journal*, 35, 381-401.
- [93]. Mahadeo, J. D., Soobaroyen, T., & Hanuman, V. O. (2012). Board composition and financial performance: Uncovering the effects of diversity in an emerging economy. *Journal of business ethics*, 105, 375-388.
- [94]. Pucheta-Martínez, M. C., & Gallego-Álvarez, I. (2020). Do board characteristics drive firm performance? An international perspective. *Review of Managerial Science*, 14(6), 1251-1297.
- [95]. Sabatier, M. (2015). A women's boom in the boardroom: effects on performance?. *Applied Economics*, 47(26), 2717-2727.
- [96]. Sanan, N. K. (2016). Board gender diversity and firm performance: evidence from India. *Asian Journal of Business Ethics*, 5(1), 1-18.
- [97]. Sarkar, J., & Selarka, E. (2021). Women on board and performance of family firms: Evidence from India. *Emerging Markets Review*, 46, 100770.
- [98]. Terjesen, S., & Sealy, R. (2016). Board gender quotas: Exploring ethical tensions from a multi-theoretical perspective. *Business Ethics Quarterly*, 26(1), 23-65.
- [99]. Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of money, credit and banking*, 1(1), 15-29.
- [100]. Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of financial economics*, 94(2), 291-309.
- [101]. Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity, and firm value. *Financial review*, 38(1), 33-53.
- [102]. Hassan, R., & Marimuthu, M. (2014). Gender diversity on boards and market performance: An empirical investigation on Malaysian listed companies. *PLATFORM-A Journal of Engineering, Science and Society*, 10, 17-25.
- [103]. Hassan, R., Marimuthu, M., & Kaur Johl, S. (2015). Diversity, corporate governance and implication on firm financial performance. *Diversity, Corporate Governance and Implication on Firm Financial Performance*, 7(2), 28-35.
- [104]. Hassan, R., Marimuthu, M., and Kaur Johl, S. (2016). Women on Boards and Market Performance: An Exploratory Study on the Listed Companies. *International Business Management*, 10(2), 84-91.
- [105]. Marimuthu, M., and Kolandaisamy, I. (2009). Demographic diversity in top level management and its implications on firm financial performance: An empirical discussion. *International Journal of Business and Management*, 4(6), P176.
- [106]. Danneels, E., & Kleinschmidt, E. "Product Innovativeness from the Firm's Perspective: Its Dimensions and their Impact on Project Selection and Performance." (Rev 112000).

- [107]. Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation, and organizational learning: an integration and empirical examination. *Journal of marketing*, 62(3), 42-54.
- [108]. Laban, O. M., & Deya, J. (2019). Strategic innovations and the performance of information communication technology firms in Nairobi Kenya. *International Journal of Academic Research in Progressive Education and Development*, 8(2), 1-24..
- [109]. Lööf, H., & Heshmati, A. (2002). Knowledge capital and performance heterogeneity:: A firm-level innovation study. *International Journal of Production Economics*, 76(1), 61-85.
- [110]. Ritter-Hayashi, D., Vermeulen, P., & Knoblen, J. (2019). Is this a man's world? The effect of gender diversity and gender equality on firm innovativeness. *Plos one*, 14(9), e0222443.
- [111]. Lakhal, F., Hamrouni, A., Jilani, I., Mahjoub, I., & Benkraiem, R. (2024). The power of inclusion: Does leadership gender diversity promote corporate and green innovation?. *Research in International Business and Finance*, 67, 102128.
- [112]. Wang, K., Ma, J., Xue, C., & Zhang, J. (2024). Board gender diversity and firm performance: Recent evidence from Japan. *Journal of Risk and Financial Management*, 17(1), 20.
- [113]. Hassan, R., Marimuthu, M., & Johl, S. K. (2017). Bridging and bonding: How gender diversity influence organizational performance. *Global Business and Management Research*, 9(1s), 117.
- [114]. Soomro, B. A., Mangi, S., & Shah, N. (2021). Strategic factors and significance of organizational innovation and organizational learning in organizational performance. *European Journal of Innovation Management*, 24(2), 481-506.