

## *Title: A Stalemate: The Road Towards Gender Equality in the Indian Software Industry*

### *Abstract*

Gender inequality manifests in the form of women getting concentrated in low-paying or low-status jobs. Such inequalities are stark in male-dominated and masculinized professions. Indian software industry constitutes 35% women employees in the industry; however, they are concentrated in entry level jobs. The study explores how the hiring process is creating or reproducing gender (in)equality in the industry. 49 semi-structured interviews were conducted with recruiters, hiring managers and candidates. Content analysis of the interviews indicated that employers are focusing only on recruitment activities to source more female candidates. Although supply of entry-level female successful applicants is high, availability of experienced female candidates is less. Despite such challenges, employers continue with unstructured interviewing, mostly single panel members who ask personal family related questions that may not be job relevant. The study also provides evidence that there is segregation in quality assurance and techno-functional roles that are not equally valued as other profiles.

### *Keywords*

Segregation, Selection, Hiring, Stereotypes, Female Candidates, India

### *Introduction*

Gender inequality manifests in multiple forms, one being segregation in specific occupations (horizontal or essentialist) and the other, wherein women are concentrated in the lower levels of hierarchy (vertical) (Charles & Grusky, 2004). One such segregated industry that has emerged in recent decades is the software industry. It is male-dominated in the western developed economies, especially in the United States (Chang 2019; Henry-Nickie & Sun 2019), where women constitute roughly 25% of the population compared to the overall labor force participation rate of 47% (Beckhusen, 2016). Interestingly, India has been one of the frontrunners of the software industry's revolution and witnesses the presence of 35% workforce as (NASSCOM, 2019) women employees in the industry despite a dismal labor force participation rate of 20.3 % in 2019 (World Bank, 2019). We could argue that the Indian software industry does not show signs of horizontal segregation; however, the limited representation of women in C-suite or top-level positions (less than 1%, Raghuram et al., 2017) could indicate vertical segregation or a masculinized profession.

Prior literature argues the possibility of supply and demand-related challenges regarding horizontal or vertical segregation of women employees. Such segregation results in women occupying low-status or low paying jobs in the economy (Reskin & Roos, 1990). The possibility of vertical segregation in the Indian software industry becomes confounding considering the profession's appeal amongst young female technical graduates and their family members as the profession is considered safe (Varma, 2010) and suitable for women (Parikh & Sukhatme, 2004). The attraction of the profession reflects in the proportion of women (51%) in entry-level jobs in the industry (Raghuram et al., 2017). According to a NASSCOM report (2018), more than 50 % of the companies that participated had 4% women in senior management positions in 2012 and 2017. Balanced proportions at the entry-level and highly skewed proportions at the top-level hierarchies reinforce the belief that demand-

side mechanisms create conditions for either exit or stagnation in women's careers. Recruitment and selection processes are the first encounters where demand-side mechanisms are at play and could create hurdles for women applicants. It is required to understand the employee selection and hiring practices in the Indian software industry that both men and women applicants go through.

Organizational practices or processes like employee selection, performance evaluation, and promotions (Castilla, 2008) are inflicted by bias against women and have been documented for both male-dominated and gender-neutral professions. Scholars (Eagly & Carli, 2007; Ely, Ibarra and Kolb, 2011) suggest second-generation gender-biases are invisible and difficult to identify and eliminate. The vertical segregation in the Indian IT industry warrants the exploration of the different biases (both first and second-generation), stereotypes or prejudices against women employees during the employee selection processes. The simultaneous understanding of the employee selection processes in the presence of biases, stereotypes or prejudices would enhance our understanding of the causes of gender inequality inside the Indian software industry.

### *Theoretical Background*

Hiring and selection practices contribute to sex-based discrimination (Baert, 2018; Neumark, 2018) and result in gender-based disparities. Employee selection, a process where hiring managers and recruiters attempt to collect and evaluate information against job specifications (Gatewood & Field, 2001) is fraught with information asymmetry. Decision-makers use a variety of signals to evaluate the future productivity or capability of the candidate. Sometimes, the capability is inferred from membership in social categories like race or gender (Correll & Benard, 2006; Fryer et al., 2013), resulting in statistical discrimination. As decision-makers use group membership as a proxy to predict capability, they resort to stereotypes acquired either directly or indirectly. The dominance of one sex over the other in the occupation could activate the status characteristic or membership in the sex category and influence the hiring decision (Ridgeway, 2009).

Employers tend to adopt or prefer selection approaches that are subjective and rely on intuition (Lodato et al., 2011). Decision-makers favour the gender of those applicants that fit the job's mental model in question and have shown to be successful on the job, as suggested by role congruity theory (Eagly & Karau, 2002). Men are assumed to possess more agentic qualities and higher levels of commitment, aspiration and ambition. On the other hand, women are relationship-oriented and possess communal qualities and are perceived to be less committed and less ambitious. Interestingly empirical evidence indicates the contrary (Dunn-Jensen & Stroh, 2007). The highest levels of gender role congruity bias has been reported for hiring decisions for male-dominated roles (Koch et al., 2015). Cultural beliefs also inform subjective decisions about what women or men should do. For example, according to social role theory (Eagly, 1987), a "good mother" should focus on the child's well-being and her primary responsibility lies in the family. Such prescriptive stereotypes contradict the "ideal worker" image whose primary focus is the organizational tasks and responsibilities and is assumed to have no life beyond the organizational boundaries. Such prescriptive stereotypes exist for female candidates, especially mothers (Gonzalez et al., 2019), creating hiring inequalities.

Most studies studying selection or hiring practices in different occupations are correspondence audit studies, wherein fake resumes are sent to real businesses, and interview

invitations are considered favorable outcomes. Such studies consistently indicate discrimination against women (Ayres, 2003; Moss Racushin et al., 2012). However, such audit studies focus on the initial phases of the hiring process, where the resume is either rejected or shortlisted, depending on the manipulation in the applicant's gender or qualifications. On the other hand, Laboratory studies manipulate the gender or qualifications of the applicant or the characteristics of the decision-maker. The applicability of the laboratory findings in real-life situations could be a cause of concern. Such studies also fail to give voice to the real-life experiences and challenges of the candidates and employers. Undurraga (2019) has attempted to document the discriminatory practices hiring managers and recruiters adopt to explain the inequalities in the Chilean labor market. My study also attempts to bring forth the experiences of the different stakeholders in the selection process in the Indian IT industry and understand how they reproduce or reduce gender-based inequalities inside the industry.

### *Methodology*

I conducted qualitative research with 49 semi-structured interviews with participants. The participants had different roles in the employee hiring process, namely, hiring managers or employers (those who initiate the hiring process and conduct the interviews), recruiters, headhunters, consultants (those who source the applicants and conduct the interviews) and candidates who have gone through the selection process. Interviews with three different categories of respondents was required for data triangulation. It was also helpful in getting knowledge about selection processes in multiple firms. All the participants were working professionals and belonged to the Information Technology industry working in private or public limited companies. The sample had 27 women and 22 men with experience ranging from five to twenty-five years of experience. Confidentiality and anonymity of participants and their company's names were assured. Informed consent was taken from them before the interview was conducted. A unique identifier ID number was used for each participant.

I used my connections to access recruiters, hiring managers and candidates. I also used the snowballing technique to get access to further participants through my first level of connections. One of my executive students, a working professional, enhanced my reach to multiple participants. Candidates were asked about their experiences of the last selection process. Hiring managers or HR recruiters were asked about the selection process they undertook or conducted in the last hiring they did. The interviews were conducted from August to October 2021. All the interviews were conducted online through Zoom and were recorded with the necessary permission. The interviews were conducted on Zoom because of the limited options to travel owing to the pandemic restrictions. The duration of interviews ranged from 25 minutes to one and a half hours. The interviews were transcribed verbatim and analyzed manually by entering the answers in Microsoft Excel.

### *Findings*

#### Sourcing of applicants

The hiring process in the Indian software industry begins with a recruitment process where in applications are sought from eligible applicants. Companies mostly adopt a centralized approach where talent acquisition experts administer and coordinate the process with the active support of the hiring managers. Most of the companies hire fresh graduates from engineering campuses or universities and experienced professionals with relevant skills.

Information technology companies are the biggest recruiters from the engineering colleges accounting for 70 to 80% of the offers (Moneycontrol, 2020). Female students comprise 42-43% of the STEM graduates in India and provides a good source of applicants.

*The ratios are good when we hire people through campus- we get a good and even ratio without efforts (H7, Male, 15 years)*

*I always prefer to hire a best. So when I go for a hiring, my selection would be I keep the cut-off of 80% throughout their academic qualifications. Then there was a test. I got 30 female candidates who cleared the test and had clearing the screening criteria. There were only 9 male candidates who cleared the steps. so definitely my selection will be obviously more female. So it doesn't mean I'm only hiring women. The thing is that because of cut-off only woman have qualified (R4, Male, 12 years)*

Female applicants perform better or at the same level on the aptitude tests conducted during the aptitude or cognitive ability tests vis-à-vis the male students. However, companies struggle with the number of experienced female applicants and it was a consistent experience across all the recruiters and hiring managers who have worked in numerous IT companies across India. To overcome the challenge, companies either partner with vendors that specialise in sourcing female candidates, provide more incentives (or payoffs) to vendors offering for a placing a successful female candidate, organise women specific recruitment drives or advertise positions or roles for only female applicants. However, such initiative and programs are limited to multinational companies headquartered either in Europe or the US.

*Not anything specific but that was more of initiatives to increase diverse pool like extra percentage to vendor partners, more referral bonuses, diversity specific hiring drives. (R11, female, 14 years)*

*Advertisement clearly mentions hiring is for women candidates, there are referral programs for women candidates. We also talk about returnship programs, support policies and flexibility provided to women candidates in the print or digital ad (R16, Female, 10 years)*

Companies provide more referral bonuses to their employees if they refer successful female candidates. Referrals are one of the common ways to enter the applicant pool and could constitute from 30 to 50 % of the applicant pool (Fernandez, Castilla & Moore, 2000; Petersen, Saporta & Seidel, 2000; Leicht & Marx, 1997). With more number of male employees or colleagues in the technology space, there is a possibility of a mental model of the work role that fit or associates with a male candidate (Hogg, 2001). Technical skills in the software engineering domain have been associated with masculine attributes (Cech, 2013) and that could increase the chances of male applicants getting referred more than female applicants.

*Yes. There are more and more male counterparts in Technology space for the same skill than females. Overall, the number of available female candidates available in technology as compared to male counterparts is lower in number. Though there are more and more females pursuing technical education but numbers are significantly low in number overall. (F3, Female, 12 years)*

## Shortlisting the resumes of the applicants

The Indian software industry employs more than four million workers and every year nearly 200,000 new jobs are getting created. The attrition rate of the industry hovers around 10% which has significantly jumped to 20% post pandemic. Hence the hiring process and the HR recruiters get overwhelmed with processing of numerous applicants and selecting suitable profiles. To facilitate such time-consuming tedious tasks, companies have started using Artificial Intelligence and Machine Learning algorithms that provide a matching score for each candidate corresponding to the job specification. Most employers consider gap in employments or education as undesirable (Pedulla, 2016) and make inferences about capability or commitments of the candidates. Such details are collected through the application forms and the algorithm that was trained through previous data calculates a match score such that an educational or experience gap is getting reduced match scores.

*The technology doesn't read that as what happened in that gap, it only reads it as a gap and rejects the profile. Now, if that was a case, a candidate actually upgraded his skill, though he is taking a break and should give a value add to the profile, alright. But what happens with this Applicant Tracking Systems (ATS) will take off, not consider that profile (R3, Male, 16 years)*

Women are likely to take career breaks owing to managing the domestic responsibilities of child-care and elderly-care (Fahle & McGarry, 2016) especially when organization support is limited or non-existent. The technology limits the possibility of considering such a profile as it eliminates the profile, rather than suggesting a human intervention. Although female candidates with breaks in their career could get rejected, targeting returning mothers and conducting a completely separate selection process could attenuate such rejections.

*There is no process where at least a flag is raised there, where the ATS comes back and tells you that there's a flag here. this guy has a one year one or two years kind of a gap, okay, this needs to be checked, otherwise, the profile is a match. Okay, which would happen with a human touch (R3, Male, 16 years)*

## Interviewing the Candidates

Hiring managers use objective, subjective, formal or informal tests or interviews to gather information to assess the performance potential of the shortlisted candidates. In the case of experienced professionals, all the participants in the study indicated that they have three to four rounds of interviews where two to three rounds are with technical experts, one round with the hiring manager or the HR. All the rounds happen in succession and are elimination rounds.

### Structured Interviews

The interviews are competency based, however, interviewers don't follow a structured format in most of the scenarios. Amongst the 33 hiring managers and recruiters that I interacted with only two mentioned about a structured interview substantiated with a hiring consultant.

*Because more often than not, it's very unstructured and goes extemporaneous. It depends on candidate profile, they will start with, candidate talking about himself. And then the questions related to the work that the person has been doing, on the technologies that the person's worked on. so there's a split there. structured would be preferred. There is a value, that this is the role that I have, and these are the things that I would want to measure. But unfortunately, it doesn't happen, in at least, at least 60% of cases. Okay, It happens in 40 %, yes, some of the major organizations do use them, right. One of the major issues, why this doesn't work is you can get somebody at maybe a manager level, to fill in your sheets. But somebody who's a little more senior, would put more often than not trust his judgment, more than any of those sheets (R3, Male, 16 years)*

*But I did face discrimination previously in another organisation's hiring process. It happened in the first round. I felt like the interviewer was having the impression that women are not good in technology and the sole purpose was to grill, humiliate and demean me. I was constantly made feel that I am being considered only because of the referral. The interviewee cleared my first round and told me clearly that I am being sent to the second round to be grilled more.(F7, 8 years)*

The initial rounds of interviews are technical in nature. In the absence of a structured format, the interviewer or the panel members could be under the influence of mental schemas, stereotypes or biases, and are not able to extract job-relevant individual information. The panel members are considering the group-membership as a proxy to inform their questions and evaluations of their potential and statistical discrimination becomes evident.

### Multiple-panel Interviews

One of the recommendations provided by scholars consistently over the last few decades to reduce gender-based selection biases during interviews is administering structured interviews (Schmidt & Hunter, 1998; Sacco, Schmeo, Ryan & Schmit, 2003; McCarthy, Van Iddekinge & Campion, 2010). Another recommendation is conducting panel-based interviews where individuals from different social groups or functional departments are present and reduce the possibilities of gender-based stereotypes or prejudices creeping in the decision-making process. Amongst the 16 participants I interacted with, 14 mentioned that they had one to one interviews or were administered single member panels. Limited number of hiring managers (3/16) and recruiters (4/17 ) mentioned that they try to bring female panel members or HR personnel during the interviews. However it is not mandatory and gets restricted owing to the availability of eligible female interview panelists.

*There is no pre-identified panel composition, and it is based on panel availability in the team. We are not specifically focussed on women panels (R8, Female, 15 years)*

*For roles beyond a specific grade, we do encourage having a diverse interview panel at least one female panelist. If no female panelist is present, we encourage diversity in different forms for example , collaborator on the project can be a part of the panel or someone from a different age group (R12, female, 4.5 years)*

Interestingly all the hiring managers barring two out of 16 in my sample were male employees and that indicates a dearth of female panel members and limited number of

women in managerial or leadership positions. There is a possibility of finding interviewers specialised on different skills who are available on hourly payment basis and only one recruiter mentioned about it. Beyond hiring external interviewers, technology has opened new opportunities for interviewing. Interview panel members were joining in a video or audio call from anywhere across India or other countries during the pandemic, and it is more efficient and quick which wasn't the case before the pandemic.

*Alright, panel interviews also can happen now, now more than ever. I am hiring and sitting in Bangalore, my director is in Bombay, my senior director is probably in Calcutta and we can all join the call together. When we're taking interviews for senior candidates, we do a panel, easier one shot and it's much more easier (R3, male, 16 years)*

Although technology could enable multiple panel interviews where panel members and candidates are spread across different geographies and time zones, there is a possibility of adopting unfair means (e.g. notes, prompting of answers by a third party, accessing internet etc.) to excel during the interviews, that would not be possible during a face to face interview. Prevalence of faking or using unethical means would not support the possibility of online interviews.

#### Seeking job-irrelevant information

Absence of female panel members or HR personnel during the interviews could provide freedom to panel members to ask personal information regarding marital status or number of children without any accountability. Managers need to acquire job-relevant information but absence of regulations and policies preventing panel members to seek personal information sends a signal to panel members that such questions could be asked. All the female candidates that I interacted with were asked such questions.

*I did face such questions for one of the job interviews that I took. I had just gotten married at that time and the interviewer checked with me twice if I was planning to start a family anytime soon as he was hiring for a critical project and did not want the candidate to join and then leave for maternity(F8, 6years)*

*During the hiring process, these are very common instances where hiring manager would check for personal details like family members and marital status. It is a general scenario where they would like to check if I will be able to work without any disconnect. For ex. this job requires person to stretch on frequent basis to catch up with US stakeholders, will you be able to catch up? Or do you have any commitments that would stop you from providing extended hour support if required? Most of the times, the focus was to identify if I can stretch or will I have issues with that. Some also wanted to understand my spouse work/job as well. (F3, 12 years)*

Although the personal questions could provide job-relevant information regarding the candidate's capacity to extend efforts beyond office hours, it could seem as intentional discrimination if such personal questions are not asked to male candidates. In the absence of opportunities of direct questions about marriage, children or planning a family, panel members search for other cues especially forms of jewellery (bangles, mangalsutra,

vermillion) that Indian married women (especially Hindu married women) adorn on a regular basis, especially if they are in a marriageable age as or ask masked questions pertaining to family background or who are there in their family.

*Indirectly we ask sometimes when we meet candidate, like generally. So, you have completed your engineering so how many family members are there, we check like this like how many members are there, like siblings. then they say like one or two. we check like older or younger than a thought comes, okay ,if she's elderly she should get married first. who are in the family what is the family background? We also understand like what is the openness of the family. There are certain families that are very orthodox that may not allow the girl to relocate (R4, male, 11 years)*

### Stereotypes Pertaining to Gendered roles

The family-related personal questions asked to female candidates originate from the gendered social roles or prescriptive stereotypes panel members have about female employees wherein women have to take on the domestic responsibilities and take care of the children and elderly parents.

*I think one of the common misconceptions, especially for female employees in India, is that if a role requires either long and/or flexible hours, we tend to generalize that this role cannot be done by women employees, simply for the fact that our social ecosystem does not encourage that. But, in my opinion, women employees are as vulnerable as their male counterparts when it comes to working long hours for a sustained period of time. I don't think one gender is better than the other in this case (H1, male, 11 years)*

The requirement to work for longer hours or work in different shifts especially late at nights catering to US based clients or customers contradict the gendered expectations and inability to fill into the shoes of the “ideal worker” (Acker, 1990). Such contradictions manifest as negative biases or stereotypes when they are applied to all female candidates. Levanon and Grusky (2016) suggest that women could be perceived as less committed or competent software engineers.

*At the start of the process when we list down the criteria for a role, till technology no stereotype would come in factor. As soon as we move to some of the softer aspects of the job, then we tend to get little gender stereotype. For example – Shift timings in particular can really get in the way of hiring a women candidate mostly due to multiple responsibilities they have. As hiring manager we tend to lose their confidence at this level and check several times to confirm. (H9, Male, 5yrs)*

*It is highly perceived that women will not take up jobs with long hours or late shifts. Which is not true all the time. There is unconscious bias for female applicants when someone is considering a tough job (R12, female, 4.5)*

### Breaks in Careers of Women



The assumptions and apprehensions of recruiters and hiring managers regarding women employees especially married women with or without children gets reinforced by the breaks in the career of experienced women employees. All the hiring managers and recruiters indicated that women go on breaks which creates a break in their careers. Such breaks signal that the priorities of women lie in catering to their family responsibilities rather than their work commitment that requires long stretched hours and working in shifts. As women fulfil their prescriptive stereotype, they send signals about their commitment towards job that accentuates the activation of status characteristic; in this case it is married women.

*In technology world, the quality of education is more or less similar only and there is no high contrast to be observed as such. But as we grow in experience ranges, clearly there are gaps observed in 3 out of 5 resumes where a women has taken a gap to plan for personal engagements (R7, female, 7 years)*

*It is well known norm that women candidates even if they start at same levels as their male counterparts, they will be lagging in the race of 10 – 15 years down the line. Reason is pretty simple – they are also managing home and families along with their work. They will take break in between for family reasons and end of the journey they are lagging with their male counterpart both in terms of level of the role as well as the salary part (R5, Male,14)*

#### Preferences towards work-life balance

Such biases and stereotypes resonate with the comments of hiring managers and recruiters when they were asked about work-life balance.

*In some cases, decision makers make the impression that women can't spend much hours in work, that is why they are asking about the work-life balance and I have been rejected based on that (F7, female, 8 years)*

*Candidates seeking work-life balance in technology jobs is perceived negatively. In few cases , managers do ask to drop their candidature due to nature of the job wherein incumbent has to work for late hours and sometimes over the weekend as well. The JD doesn't state any long work hour commitments explicitly (R11, female, 14)*

Without the required information on the work hour commitments in the job descriptions, it becomes challenging not only to the applicants to apply for roles or jobs that suit their requirements but also throw hiring managers into a dilemma where they have to deliver certain time-bound projects with as less resources as possible.

#### Stereotypes pertaining to technical skills

Apart from the assumptions regarding the commitment of women towards roles or profiles that require extended hours and night shifts, another stereotype that emerged from the interviews was women are not either good in coding (the essential skill in the industry) or they don't prefer it.

*It is general perception that coding, and development is an interest area for male candidates than the female candidates. Though I have not faced a situation where I have been told that a male can do a better coding than a female, but since automatically more number of applicants tend to be boys it remains to appear a masculine job. There are good number of females who are interested in coding but can do so, but they require more opportunity and platform to breakthrough this perception. (F3, 12 years)*

*Quality of education was better in female candidates, but their real time experience is very limited in technology space like coding. Their orientation tends to be less technical than their male counterparts. (R15, Female, 4 years)*

The presence of limited women in coding or technical jobs creates chances of statistical discrimination. With lesser opportunities, female employees are not able to gain relevant experience in coding and cannot display enough technical orientation that is essential for technical roles, reinforcing the stereotype. However, women seem to be more interested in jobs like testing or business analyst or techno-functional roles that are not seen as technical enough. Another profile that observes a higher representation of women in IT companies is of Human Resources, a support function. Segregation within the software industry in quality assurance or testing related jobs has been recently observed in the US too (Campero, 2021).

*But I have heard a lot of females talking about how the male team doesn't prefer female co-workers because they might not be technical enough (F5, 7 years)*

*On the record or formally no one will accept this. But offline, there are many stereotypes called out unconsciously. For example, female students would take up less coding jobs or shows more interest towards less technical jobs, so there is better female ratio available in jobs like testing, business analyst etc. Also, females when they are well supported are very good orators, and have good education background. They tend to more like take up jobs with customer facing (R12, female, 4.5 years)*

The quality assurance jobs or profiles were lower in status with respect to pay inside the US. The study also showed that once individuals have such quality assurance experiences in their resumes it becomes a deterrent for them to explore or gain entry into more technical profiles. Similar valuation and barriers to movement could also be the case in the Indian IT industry that could explain lesser growth opportunities or segregation of women in the Indian IT Industry too substantiating the propositions of previous scholars (Bielby & Baron, 1986; Reskin & Roos, 1990). The profile of a business analyst requires interaction with the clients and the development team. Qualities like relationship-orientation, good communications skills, stakeholder management are important for the profile that resonate with feminine qualities. However, previous research (Chakraborty, 2019) indicates such profiles could limit the career progression of female employees as they limit the opportunities available

*As a role, Business Analyst is neutral role where both male and female have good expertise since it requires strong communication and stakeholder management*

*experience. More and more females are good orators and capable of good project management skills. (F4, 9 years)*

## Decision-making

Although employers and decision-makers fall back to stereotypes pertaining to gender social roles and incongruity in technical roles, they strive to bring representation of women employees in their teams or organizations. However, the representation is not necessarily sought for encouraging gender equality.

*There are times when a diversity is favoured only to create a balance in the team where there has been higher presence of male candidates already (R6, female, 5 years)*

*I would like to also keep in mind about the gender ratio in the team, if its required. Like virtually, it does not matter much but in physical setups, it can be very tricky. (H9, male, 5 years)*

Depending on the ratio that decision-makers have decided to achieve, efforts to increase representation of women employees gets stalled as that target ratio is achieved. Most recruiters and hiring managers indicated a preference of one-third of the team or department to be represented by women. The industry also constitutes roughly one-third of female employees.

*Managers see whether they have 30% women in their teams. If it is less, they will try hard and try to think less about the urgency of the business. If they have achieved it, they will say that business is suffering and I need resources (R17, Female, 20 years)*

Although the entry level jobs indicate balanced proportions, the managers and recruiters adjust their hiring target ratios to one-third. There is a possibility that target gender ratios are reconsidered regularly after looking at supply statistics and industry averages. The industry statistic could also be the consequence of preferred target ratio in the mind of decision-makers.

## Discussion and Conclusion

Indian software industry indicates a higher representation of female employees vis-à-vis western developed economies. The proportion of female students opting for STEM courses indicates that women are also willing to enter into technical professions. However, the industry is masculinized in nature due to the commitment in terms of long hours and late night shifts that personify the “ideal worker” (Acker, 1990) and contradict the gendered roles and expectations of a woman. The contradictions manifest in career breaks that experienced women professionals take and lose out in experience, pay and skills. The exit generally happens in the first five years of employment (Gupta, 2020). The vertical segregation is evident in fewer women in managerial positions, and horizontal segregation within the industry was confirmed by the participants in specific profiles of testing and business analysts that are not as highly sought when compared to the technical coding profiles or jobs.

Sex bias is a persistent cause for gender inequality and manifests in various organizational processes like selection, evaluation and performance management. Although the organizations in the IT industry are aware of the limited availability of experienced female

professionals, their focus tends to be more on getting a higher number of female applicants rather than ensuring that their selection tools or processes are bias-free. Most employers in the study neither adopted structured interviewing techniques nor ensured the presence of diverse panels in the interviewing process. Artificial Intelligence in shortlisting resumes or profiles indicates the possibility of gender bias against experienced female professionals who would have taken career breaks for various reasons. A recent meta-analysis (Hardy, Tey, Cyrus-Lai, Martell, Olstad & Uhlmann, 2021) indicates that even a sub-group bias causing 1% variance in assessment scores could lead to an impact ratio of 0.59-0.61 when the selection ratio is 0.01. The inaction towards adopting more valid assessment tools, mainly structured interviewing and diverse interview panels, indicates indirect or institutionalized discrimination owing to convenience and efficiency, a pursuit of technical rationality. It is noteworthy that managers and recruiters strive for a ratio between male and female employees within their teams or within the candidate pool. The recruiters would strive for a limited number of shortlisted female candidates for interviews. However, seeking gender balance or equality is not a factor in decision-making. Representation of women in teams and candidates is the objective that restricts the investment of resources or changing hiring processes that could contribute to gender equality.

The selection mechanisms are similarly applied for both male and female applicants. However, the masculine nature of the profession creates stereotypes against women as they have to fulfil their gendered roles and responsibilities of caregiving and nurturing that obviates the commitment towards the profession. Prior research (Carless & Wintle, 2007) indicates work-life balance arrangements increase the organizational attractiveness for both young and older employees (Hall, 2004). However, most of the participants in my sample indicated a dislike towards candidates who sought work-life balance. Owing to women's social roles, it is evident that female candidates would not be preferred for such profiles. The presence of more men in technical roles like coding also creates a mental model in the image of decision-makers that resonates with a male employee more and could create hostile environments during the interviews that would hinder the display of optimal performance of the candidate.

My study presents evidence of essentialist (or horizontal) segregation within the IT industry and vertical segregation (very few female hiring managers). Previous research has indicated women getting segregated to professions like teachers, nurses, secretaries etc.. However, limited studies delineate the segregation within a specific industry. My study provides evidence that gender inequality is an outcome of the interplay of both institutional and individual discrimination in the Indian software industry. My study also presents evidence of stereotypes pertaining to gendered roles and expectations and gender biases emerging from role incongruence wherein the lesser number of women in technical or coding jobs creates a gender bias that women either are not good at such jobs or are not interested in the same.

Indian IT organizations need to reassess and incorporate selections tools that are procedurally fair and send signals to applicants or candidates that they respect and value women employees. Although there is evidence of second-generation biases, recruiters and HR personnel could design and administer structured interviews for different roles or profiles. Structured interviews limit the opportunities to ask irrelevant personal questions about family members, marital status, family planning etc. Panel members from diverse groups or backgrounds need to be trained and selected for interviewing purposes to ensure gender bias is reduced significantly in the decision-making process. The presence of female panel

members sends a positive signal to female applicants that the organization values diversity and inclusion, and opportunities exist for women to grow inside the organization.

As Indian IT organizations increasingly resort to using Artificial Intelligence for shortlisting resumes, it needs to conduct regular audits to assess what kind of applicants are getting rejected and the likely reasons for those rejects. The algorithm could be designed to not inadvertently reject female applicants who had or have taken a break because of varied reasons. HR executives or business partners could thoroughly discuss with hiring managers to understand the extent of long hours or late-night shifts for different roles. It would ensure that job descriptions do not emphasize masculine attributes and allow applicants to self-select themselves into such jobs. However, in the wake of the pandemic and overall well-being becoming an essential concern of employers, attempts could be made to redesign work so that extended durations of peak workload could be reduced.

The presence of more male applicants/candidates in the sample would have given more opportunities to indicate whether personal questions are explicitly asked to female candidates or both genders. Future research could look for more male applicants. The research entails high levels of social desirability, however, the inclusion of all the three different stakeholders ensured data triangulation. Hence, I reached out to participants whom I knew personally and kept the questions as open as possible. Future research could unravel whether the segregation of female employees in testing or business analysts' roles is limiting their opportunities for growth and advancement as observed in other contexts.

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