Diversity And Inclusion In The Technology Industry Gendered Experiences of Women Designers in India

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Gender Perspectives on the Digital Economy

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Abbreviations

DEI - Diversity, Equity and Inclusion

DA - Discourse Analysis

STEM - Science, Technology, Engineering and Math

STS - Science and Technology Studies

FTS - Feminist Technology Studies

PMs - Product Managers

NASSCOM - National Association of Software and Services Companies

1. DIVERSITY AND INCLUSION: CONTESTED DOMAINS

That technologies are sociotechnical, produced and consumed within structures of 'power, contestation, inequality and hierarchy' (Sassen, 2002, p. 336) is illustrated by self-driving cars, more likely to drive into black people and voice assistants like Amazon's Alexa. Applications powered by supposedly 'value-free' math, perpetuate inequalities that are a result of the bias of technology's human creators (O'Neil, 2016). Racism, sexism and capitalist values are written into flawed algorithms that technologies like AI, learn from and amplify (Zou and Schiebinger, 2018).

Diversity, Equity and Inclusion (DEI) is a popular mainstream and tech industry discourse. The increasing gender imbalance in tech led to the publication of diversity reports by tech companies in 2014 (Mundy, 2017). Statistics have shown that the tech industry is run primarily by white followed by Asian, males. Black, Latinx and women employees formed a small percentage – working largely in non-tech, non-management roles (Lafrance, 2014).

A popular conclusion drawn from these observations is that 'diverse teams create better products' i.e. diverse perspectives and knowledges lead to the creation of 'inclusive' products that better represent the needs of the consumer base[2] (Akinnawonu, 2017). However DEI policies, thus far, have only been marginally successful (Pedulla, 2020).

The current DEI discourse, produced primarily by consultants, tech companies and the media, is narrow in scope i.e. statistics based. While diversity research in disciplines like management studies abound, interdisciplinary interrogations rooted in the social sciences, to better understand the diversity-inclusion relationship, are conspicuous by their absence. While it is often said that the 'tone' of work culture in an organization is set by the management, the author submits that it is in the everyday interactions, negotiations and decisions of members of design teams, that inclusion is 'made'. Speaking openly and being heard, feeling safe enough to propose

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[2] "We need to think like the people whose lives we are trying to improve" (Verma, 2022).

ideas, empowering others to make decisions, taking advice and implementing feedback are some of the ways in which an inclusive work culture is built (Sherbin and Rashid, 2017).

This exploratory research analyzes the understanding and practice of DEI through policies and initiatives in technology companies in India, focusing specifically on gender and its intersections of caste, class, sexuality, dis/ability, etc. in design teams. It argues that while tech companies in India formulate DEI policies and implement initiatives, policy analyses and women's experiences reveal that inequality and exclusion continue to persist at multiple levels in the industry.

2. THEORETICAL AND METHODOLOGICAL FRAMEWORKS

2.1 Theoretical Frameworks

2.1.1 Technology is not neutral

Where the standard view around technology leaned in the direction of 'technological determinism', social shaping models in STS introduced the idea that technology does not follow some rational, problem-solving path, but that it is shaped by social factors. The constructivist view thus lends support to this study since it asserts that the technology industry (like society) is socio-technical while also highlighting the importance of non-technical expertise, and encouraging its introduction into the design process. FTS lies at the intersection of feminist theory and STS and draws from this constructivist approach. Building on the concept of social shaping, FTS theorized the relationship between gender and technology as one of mutual shaping i.e. technological artefacts shape and are shaped by gender interests. FTS scholars recognised the significance of women's absenteeism in technology design. Employing more women is about more than just equality of opportunity. It has wider implications for how the world is shaped and for whom (Wajcman, 2010, p. 151; Wajcman, 2007, p. 296). "The issue of women's inclusion in IT design is consequently a question of who is included in these processes of shaping the world in

which we live" (Sefyrin, 2012, p. 709). Technology design then, has ethical, moral and political consequences for society.

Technology is not produced in vacuum. The act of designing is almost always at the behest of paying clients, which places powerful and complex constraints on what designers can and cannot do (Michelfelder, Wellner and Wiltse, 2017). Design researchers Canli and Prado (2016) assert that social differentiation and unequal resource distribution are extremely relevant to designers. Systems of inclusion/exclusion, privilege/oppression etc. are reproduced through and manifested in artefacts, spaces, sites and technologies. Balsamo (2011) uses a gendered perspective to examine both the design 'process' as well as the product. The mere presence of women/marginal groups, will not automatically transform technologies since there is no guarantee of them doing anything differently, as designers or consumers. This is because technologies are not simply tools of human agents. They are assemblages of people, materialities, practices and possibilities. Bratteteig (2002) believes that the design process would benefit from having a basis in different ideas and experiences since design is a process of decision-making that involves both ideas and materials. A designer's work is carried out in the context of a group within an organization, that exists within a culture and a society, that is in turn, part of the global and local development in technology.

2.1.2 Technology is gendered

Society uses technology to express gender (Bray, 2007). In the West, technology is strongly established as a male domain. Men are attributed a natural connection to technology while women are thought to fear or dislike it. FTS theorist Wajcman states "…in contemporary western society, the hegemonic form of masculinity is still strongly associated with technical prowess and power". This technical culture "expresses and consolidates relations among men" and in doing so excludes women (Wajcman, 1991, p. 111). Statistics on women's interest and participation in Science, Technology, Engineering and Math (STEM) in Western countries is evidence of this fact. In the United States in 2019, where women make up nearly fifty percent of the total workforce, only 27% of STEM workers were women - a clear indication that science and technology is a masculine domain (Martinez & Christnacht, 2021).

Studies from India reveal trends in STEM that contradict Western discourse. In 2016, Indian women graduates in STEM made up 42.72 percent of the total, as against the US (33.99%), Germany (27.72%), UK (38.10%), France (31.81%) and Canada (31.43%) (Business Standard, 2021). Moving from STEM to computer science, studies in the Global South indicate that computer-related fields are not necessarily male dominated or perceived as masculine. Conversely, many are seen as "women friendly" jobs for which men do not compete (Gupta, 2015). In the patriarchal, patrifocal[3] Indian family, changing marriage and family patterns encourage young middle-class women to take up engineering, especially computer engineering, as a career. An engineering career brings prestige to the family, makes it possible to get a respectable job and is also used as a bargaining chip in marriage arrangements. A bride with earning potential is looked on favorably in a middle-class home.

However, to understand this scenario solely through the lens of empowerment would be a mistake. Traditional branches of engineering; civil, mechanical and chemical, are considered unsuitable and much too physical for women[4]. Women are often actively discouraged from availing such choices in favor of computer engineering. IT in India thus reinforces gender stereotypes and assumptions by allowing women to work in 'safe' office environments and use their mental rather than physical strength. IT in other words, is packaged as a woman friendly, socially approved option. It creates opportunities but not without further strengthening gender stereotypes and reproducing gender inequalities (Gupta, 2015). Numerous examples illustrate this. The unemployment rate for women engineers is 40% i.e. five times the unemployment rate for men. When jobs are hard to come by 84% of Indians believe that men should be given preference over women (Rincon et al., 2019, p. 3).

2.1.3 Diversity and Inclusion as Concepts

Diversity and inclusion are buzzwords, further publicized during the COVID 19 pandemic (ILO, 2022). Diversity has no universal definition – it is different in different cultural contexts. In a workplace, diversity refers to demographic differences among people, some observable, like race,

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[3] where the family is a major influence on an individual, especially when it comes to marriage and education
[4] The idea that men are naturally drawn to STEM has reinforced perceptions of STEM as masculine and the ideal engineer as being male. "This perception reinforces the idea of ability as innate and fixed, which, in turn, reinforces perceptions of STEM as a masculine field " (Parson et al., 2021, p. 76).

gender and age, and others non-observable, like culture, ability and education (Mor Barak, 2015, p. 85). Alegria (2020) adds to this "intellectual diversity, which happens on teams consisting of workers with different disciplinary training and ways of thinking..." (p. 2). Management studies on DEI have established that diversity makes business sense (Vitores and Gil-Juarez 2016, p. 670). Phillips (2017) says diversity makes us smarter. It enhances creativity and encourages new perspectives, allowing for better decision making and problem solving. Inclusion refers to the perceptions of employees that their unique, individual contribution to the organization is appreciated and that they are encouraged to participate fully at their workplace (Mor Barak 2015, p. 85). Asking people to define inclusion yields many different results. However, being excluded is simply and universally understood as being left out (Holmes, 2018, p. 4).

Diversity and Inclusion in the workforce is a two-stage process. The reactive stage is the organization's recruitment and employment of a more diverse workforce. The proactive stage involves efforts and active investment in managing the diversity to enhance inclusion and improve the effectiveness of their workforce (Mor Barak 2015, pp. 85-86). The challenge lies in understanding and managing diversity, not only through the development of policies at the level of management, but more so in the everyday interactions and decision-making in tech design teams.

Gagnon et al. (2021) maintains that a gap exists between DEI theory and its practice, to achieve change. This is primarily because DEI research is conducted within multiple paradigms - functionalist, interpretivist, radical humanist and radical structuralist. Each remains isolated, critiquing the other, but lacks the ability to communicate beyond its paradigm. However, with a change agenda in mind it is possible to draw out valuable insights from each of these paradigms.

DEI discourse is not without its critics. Walcott (2019) says diversity has reached its logical end. Hoffman (2020) critiques inclusion calling it a "ready-made narrative of iteration and improvement" that works to "diffuse the radical potential of difference and normalize otherwise oppressive structural conditions" (p. 1). Benjamin (2019) names it part of a broader category of

'happy talk' which acknowledges cultural differences without making a concerted effort to challenge structural inequality. DEI's critics emphasize the importance of an overhaul in oppressive societal structures.

2.2 Methodological Framework

2.2.1 The Constructivist Paradigm and Interpretive Research Design

The constructivist/interpretivist approach to research is based on the ontological assumption that social reality is not singular or objective but shaped by human experience. Rather than beginning in theory, constructivists begin in experience. They see reality as socially constructed and individuals as having a role in that construction. In other words, reality is 'interpreted' or 'constructed' through the process of sense-making. The focus on meaning and meaning-making practices of social actors within a given context, makes interpretive research design a suitable choice for this project.

2.2.2 Feminist Methodologies: Experience, Intersectionality and Abjectness

To compliment this ontological position, the author has chosen a feminist methodology that begins in gendered experience, is mindful of difference and has an interest in questions of power that favor an investigation into DEI. The concept of feminist reflexivity addresses issues of social background, individual personality and objectivity/subjectivity of the researcher.

Firstly, drawing from Dobusch (2016) the author submits that while using the terms 'men' and 'women' in her paper, she approaches gender "from a non-essentialist, relational and context sensitive perspective. The non-essentialism arises out of the "assumption that there is no naturally given link between being labeled as a 'woman', a 'man' "…and the associated biological and/or physical conditions" (p. 3).

Sociologist Dorothy Smith's standpoint theory highlights the everyday/everynight world of individuals situated in subordinate positions. She focuses on a sociological inquiry from one's 'site of experiencing' and the embodied subject. What one knows is affected by where one stands i.e.

ones subject position in society. Hers is a sociology that begins in experience. A single standpoint in isolation is meaningless. It is only when we employ perspectives from multiple experiential standpoints that we have a more complete picture of "women's experience" (Smith, 1992). Legal theorist Kimberle Crenshaw's concept of intersectionality, best explained as "… a lens through which you can see where power comes and collides, where it interlocks and intersects" (Columbia Law School, 2017, para. 4) reminds us that the standpoint of a lower class, homosexual woman (intersection of gender, sexual orientation and class indentities) is likely to be different from that of a upper caste disabled straight woman (intersection of caste, ableness and sexual orientation). As Crenshaw says "It's not simply that there's a race problem here, a gender problem here, and a class or LBGTQ problem there. Many times that framework erases what happens to people who are subject to all of these things'' (Columbia Law School, 2017, para. 4). Gender, Wajcman (2010) reminds us, is "connected to other axes of power such as race, colonialism, sexuality, disability and class" (p. 147). In the Indian context, we would be remiss if we did not add caste. Feminist philosopher Judith Butler's concept of abjectness that "…relates to all kinds of bodies whose lives are not considered to be "lives" and whose materiality is understood not to "matter" is of value in the context of this research (Meijer & Prins, 1998, p. 281). Homosexual, disabled and lower caste bodies can all be understood through the lens of abjection.

2.3 Research Aim and Research Questions

This exploratory study uses qualitative methods to understand the everyday 'doing' of inclusion in technology companies in India. It goes beyond objective and standardized ways of knowing to generate authentic and valid knowledge through women's experiences. Anecdotes, when contextualized, are very real and valuable narrations of meaning. This research will thus provide clarity as to the gap between the current industry discourse on DEI and its actual practice, offering valuable insights for the creation of robust, effective, future policy.

To this end, I ask the following research questions:

1. What is the technology industry's understanding of diversity, equity and inclusion as constructed and presented in the literature produced by tech companies?

2. How is inclusion (understood as diversity, operationalized), 'made' and 'remade' in the daily working of diverse teams and what implications does this have on the team member's comprehension of the design 'process'?

3. RESEARCH METHODS: CHOICES AND LIMITATIONS

3.1 Selection of respondents

For insight into the lived experiences of women working in tech design teams, the author conducted interviews with six women between the ages of 20 and 45. The author put out a request for respondents on Twitter as well as through personal contacts, to overwhelming response. Basic information - name, age, names of prior and current employers etc. were requested from each of the respondents. Keeping intersections of identity - gender, caste, sexuality, disability and work experience in mind, four women were selected from Twitter and two from among persons introduced to the author through personal contacts. The author herself comes from a middle class, upper caste urban background. She is a non-disabled cis-woman and is not a designer.

Five of the six respondents work for tech companies or startups with offices based in Bangalore, India. The sixth has 20 odd years of experience and is therefore a valuable source of information, especially on the changes that have taken place in the tech industry since its inception. She is based in Hyderabad. The respondents work/have worked in both homegrown startups as well as in big tech firms. While four are currently employed as UX designers, one is a UX writer and another, a UX researcher. Each of them are/ have been members of larger design teams. Keeping individual identities and company names anonymous was necessary to ensure that the respondents could share their thoughts and experiences freely without fear of backlash from their current or future employers. Since the design community is a small and relatively tight-knit one, interviews were conducted one-on-one with each respondent[5].

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[5] The overwhelming interest in the call for respondents, led to the researcher toying with the idea of having Group Discussions besides one-on-one interviews. She dropped this idea when she realized that anonymity would be of prime importance.

3.2 Interviews

The qualitative intensive or in-depth interview reveals insights into human action, experience, values, beliefs and behaviors. The interviews conducted were semi-structured. The author prepared an interview schedule that guided each of the interviews, while also allowing the respondent to guide the course of conversation. The goal was to understand how respondents make meaning of their circumstances and experiences in diverse tech teams.

18 interviews in total were part of this study, each in a one hour slot, conducted over a four to five month period with a total of three interviews per respondent. While originally intended to be in-person, the pandemic forced the interviews online. Interviews were thus taken over Zoom/Google Meets and thereafter transcribed.

The interview schedule consisted of questions about family background, schooling, design as a career, their design teams - composition, ease of interaction and finally DEI policy and training in their place of work etc. Topics of discussion that respondents themselves introduced in the course of conversation include work culture in design, interactions between designers and other roles, women in managerial positions etc.

3.3 Discourse Analysis

Discourse Analysis (DA) is a qualitative, interpretive method that looks for language patterns across texts while paying attention to the relationship between language itself and the socio-cultural, political, economic context of its production. The author worked to analyze a mix of DEI policies from tech companies, both international and homegrown, having offices in India. The DEI literature analyzed is available in the public domain. Discourse Analysis allows the author to identify company values and principles regarding DEI that emerge from the texts of diversity reports, statements and blog posts put out by companies.

3.4 Choices and Reflections

Interviews with women designers have led the investigation into DEI in tech companies. The themes that evolved out of interviews ultimately determined its scope; one much wider than the

author originally envisioned. The structure and writing style of this paper are conscious decisions on the author's part. The respondents' deep faith in the relevance and timeliness of the research topic prompted the author to adopt a writing style that will be accessible to a wide audience.

While the detailed interviews unearthed a variety of important issues, the author was unable to identify and interview more people with lower class and caste backgrounds. Twitter was a good option to make connections in a pandemic, however the access and use of such a platform is limited. The author looks forward to widening the pool of respondents and conducting more interviews in the future.

4. GENDER IN TECH DESIGN: EMERGING THEMES FROM NARRATIVE EXPERIENCES AND DISCOURSE ANALYSIS

4.1 Gender Composition In and Beyond Design Teams

Western discourse has impressed upon us the adverse gender ratio in the technology industry (Mundy, 2017). While the tech industry is more diverse now than it was in 2014, women still find themselves in the minority, from entry level positions to leadership and management roles. A US 2020 study, analyzing data from 51 companies revealed that women make up 28.8% of the tech workforce, up from 25.9% in 2018 (AnitaB.org, 2021). Furthermore, women employed in the industry work largely in non-technical, non-management positions (Lafrance, 2014). Interviews the author conducted with women designers allow us to better understand the unique gender dynamics of technology jobs in India.

4.1.1 Gender Ratios and Interactions in Design Teams

Tech companies, especially startups, have a young workforce. The respondents, mostly in their mid-twenties to early thirties, say that their workplaces also reflect this demographic. Respondents with over five years experience, remember a time when women were a minority on design teams in tech companies. Respondents M and O remember being the only women on design teams a few years ago. They have witnessed trends change, especially over the last five years. Tech design teams, even in Indian tech companies, have worked at ensuring a more or less equal ratio of men to women (if not more women than men), over the last two years.

This trend is not unique to India. While the gender ratio in the technology industry more generally, is skewed in favor of men, UX design specifically has a healthy representation of women. A study conducted by a recruitment consultancy in Ireland found that 41 percent of all UX designers in Ireland are women in comparison to just 20 percent of the wider tech sector (UX Design Institute, 2020). Similarly in the US in 2022, the gender ratio of UX designers is split 53/47 in favor of women (CareerExplorer, 2022).

While tech design-specific gender data in India is difficult to come by, efforts are being made to improve gender parity in India's tech industry, overall. As of December 2021, in Tata Consultancy Services, Infosys, Wipro, Tech Mahindra, Mphasis and Mindtree, 3 out of every 10 employees were said to be women (Verma, 2022). NASSCOM's 2022 Strategic Review of the technology sector in India, pegged women's representation in the tech industry at 36% (Choudhury, 2022). Despite these initiatives, tech companies are male dominated. Like O states *"Even in 2022, the composition of tech companies is male driven. I have been mistaken for an HR official when I wear the company jacket".*

When compared to non-technical roles like human resources and marketing that women tend to occupy in tech companies, design is fairly technical and directly influences the final tech product. If diverse teams create better products then the current trend of relative gender parity in design teams against the backdrop of a larger male dominated work environment in tech, makes for an interesting discussion.

4.1.2 Gender Ratios and Interactions Beyond Design Teams

The work of designers is collaborative and requires engaging with others. While much of the work designers do requires interacting with other designers, they are also required to engage and consult with employees in other verticals. The most significant among these are Product Managers (PMs) and Developers. PMs represent business and/or client interests while developers (computer programmers) occupy a technical role. It is important to note that both roles are central and critical to the functioning of the organization.

Design teams are usually close knit[6]. Interview respondents reported having fewer problems and less discomfort interacting and expressing their thoughts and opinions freely in their own design teams. There was a certain comfort level in internal discussions around design. Q experiences the space as very '*professional*' and '*rational*' in which designers '*try to have no opinions at all*' and hold on '*loosely*' to their opinions regarding design decisions. Design teams have a relatively balanced gender ratio and are experienced as less hierarchical. However, their experiences of interacting with PMs and developers was markedly different. The respondents related experiences of aggression and intimidation[7]. This behavior was attributed to various reasons - the respondents' age and relative inexperience[8], the nature of work responsibilities of PMs and developers[9] and their individual personality. Respondents also maintained that both PM and developer roles are male dominated in both Indian as well as multinational companies. When compared with each other, there is slightly more gender diversity among PMs than developers.

Interviews revealed that interactions within design teams- that tend to be gender equal- are generally comfortable on the professional front and quite inclusive. However, meetings and discussions beyond the immediate design team are often said to be challenging. One of the reasons for this appears to be the lack of gender parity in PM and developer roles that alters the dynamics of interaction in the organisation.

4.2 The Gendering of Organizational Roles

Respondent O who has been in the industry for over twenty years, has observed the gendered nature of organizational roles in the Designer-PM-Developer relationship in the tech industry. Design, she says, has a 'feminine touch' to it and thus tends to attract women and men who are in touch with their feminine side, while engineering is testosterone driven. Design is perceived as creative, involving color and art; both having strong cultural associations with femininity; while engineering is considered technical and problem-solving and therefore masculine. In reality, both

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[6] Respondent O says "In bigger companies, in a sea of engineers there is a minority of designers. They have to be close knit".

[7] According to N "For designers, working with a PM is mostly a nightmare…most of them seem to be quite aggressive…it's difficult to convince or challenge them…". She also says there are very few women PMs.

[8] W says "When one is new in a role/company, there's resistance. Being the youngest in high level meetings means being dismissed."

[9] In N's words, "they seem to be not very open to thinking about things. Or maybe they're just in a hurry or just overloaded with work all the time". "what engineers or PMs are doing translates directly into numbers, and numbers for the company is revenue for the company".

design and engineering involve the heavy use of technology; yet one is constructed as feminine and the other masculine.

In the above discussion and those that follow, gender stereotypes intersect with notions of work to construct the understanding of careers that are considered acceptable for men and women. This is a process that is referred to as the 'gendering' of professional identities (Phipps, 2002)

Stereotypes of innate ability and gender roles are at play in W's experience of choosing her career. *"…part of the reason that I was allowed to study design is because I'm a girl and [my parents] were like…she's not going to do anything with a degree anyway…she can do what she wants to. My brother, too, wanted to explore art, but he wasn't allowed to… they sort of just pushed him into medicine".*

4.2.1 The Perception of Value

The gendered constructions of organizational roles within design also ties into a theme that Respondent T discussed with the author at great length. T shared her observations on the 'perception of value' of the contribution that Product Design and Brand/Marketing teams make to the organization, and how this perception is gendered. Her experience is especially valuable since she worked as a designer in both teams while employed at a homegrown tech company. In startups that have different teams for Product Design and Brand/Marketing work, the Brand teams are usually female dominated and the Product Design teams, male dominated. Product Design is perceived as a technical, problem solving role that tends to be associated with men. Product Designers usually have an engineering background. Design, especially graphic design, associated with the Brand and Marketing teams is not attractive to men - the idea of working with color and visuals being rather effeminate. T states that both teams are treated quite differently, especially in startups. In the startup she worked in, Product Design teams had a loose organization, and they were made special allowances, like reduced work timings, that other teams were not permitted. In other words *"they played by different rules"*. Most importantly, they were paid more[10].

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[10] The authors' conversation with a US based designer echoed this experience. Her company's continued focus on product development over UI/UX design received constant criticism from clients. Clients repeatedly informed the company that their useful product had become tiresome and difficult to use due to the lack of effort in design measures. Improving the design had been something the design team had been advocating for incessantly, to no avail. Their needs and inputs were constantly put on the backburner till the client's criticism and threats to drop the product gave the company no choice but to listen to the designers.

W has noticed that in design-led companies, designers are more likely to be treated equally. It is in Product-focused companies that designers tend to face inequality. Respondent O works for an international company in which designers are highly valued as demand for them is greater than supply. She says that in a services company like hers, designers are paid by the hour while developers earn salaries. She also especially highlights the importance of work experience in being well paid. Uninterrupted careers are unfortunately a luxury many women cannot afford.

The author submits that it is no mere coincidence that design is seen as bringing less value to the organization than business and developer roles; or that product design is given higher value than graphic design. The gendering of organizational roles is very apparent in these cases.These experiences emphasize the unfounded, unjustified difference in 'perception of value' of each of these roles within an organization. The difference does not lie in the actual value that each of the roles bring to the organization, but rather in the perception of their value in the eyes of the company.

4.3 Women in Managerial Positions

While women designers have a healthy presence in lower and mid-level roles, their numbers decrease substantially at the levels of middle and upper management[11]. Interviews showed that upper management is experienced as heavily masculine and therefore alienating for women. It is no coincidence that these are the spaces in which important decisions regarding the design of tech products are made[12].

4.3.1 Representation of women in managerial positions

Q is a UX designer in her mid-twenties. She likens the organizational structure of tech companies to a pyramid, where the bottom has a proportional gender diversity ratio but as the structure tapers, the absence of women is obvious. She says of the MNC she works at -

"… beyond mid level…where you have the manager levels,… that's where I think the composition of women is around 10%. As you go further up, it's even less…the main partner director is male. And

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[11] "While 50% of women are being hired from the campuses, the number is not similar when it comes to hiring at mid-levels"(Verma, 2022, para. 11).
[12] See (Alegria, 2020)

people directly reporting to the partner director are also, I think, just two women and like some nine or ten men…"

W says that at lower levels in her company, women stand at 30% of the total workforce.. *"And then when it comes to upper management, I think it's just impossibly hard to find. I've never had a female manager".*

In T's experience meetings with management on average have a gender split of 70/30. She believes that organizations must be careful while stating that gender ratios are more equal at lower levels in an organization, without discussing specificities. According to her, the number of women at lower levels "balances out" only because there are more women in certain departments. This balance is not equitable. For example, at entry levels there are more women in the marketing department that make up for the fewer women in tech departments. However, there is a world of a difference in fresher marketing salaries and fresher tech salaries, since tech roles are always paid more. This means that at both upper and lower levels in the organizational structure, men occupy roles that are compensated for better than women.

4.3.2 Mentoring and Promotions

In M's organization which has only recently been making an effort to hire women, women are hired at entry levels and tend to remain at entry and mid-levels. The trend is different for males. She has observed that they are promoted more easily and quickly rise up in the organizational structure. They are also more easily accepted into higher positions. Males, often young and inexperienced, in comparison to women are included in meetings that women are regularly excluded from. M says many women in her organization have also made and shared this exact observation.

At a 'town hall' style meeting, Respondent N asked the CEO of her company why there were no women in the leadership team. He answered that they were unable to find the right talent. Her question made the CEO defensive and the room uncomfortable. Nobody backed her up and the discussion did not continue.

While companies justify not having women in upper management positions by saying that they cannot find qualified experienced women to fill job openings, many women report that their

promotions take longer than those of their male counterparts. Perhaps nurturing and promoting one's own talent is the key to improving the gender imbalance in upper management.

4.3.3 The Tightrope Bias

M is a UX designer with a hearing and speech disability[13]. Her well-meaning manager encouraged her to be more assertive and "speak louder" at meetings. On other occasions, she's been told she's too pushy - an unadvisable trait for a woman in the workplace. Being both aggressive and submissive are considered problematic. She calls this the invisible, imaginary line women are expected to walk. Researchers call this The Tightrope Bias - a name given to circumstances in which "a narrower range of behavior is accepted from some groups than from the dominant group. These expectations are tied to prescriptive stereotypes about how people should behave based on stereotypes about their group. When someone does not conform to these expectations, they can face backlash". Women are forced to walk this tightrope where they are seen as too masculine and therefore respected but not liked or seen as too feminine, and then liked but not respected. The tightrope bias is when women experience pushback when they are for example, straightforward, advocating for themselves viz their opinions or a raise (Rincon et al., 2019, p.4). Unlike their male counterparts for whom it is normal to negotiate for outrageous salary increases and perks, both M and T say that despite being highly qualified, confident women, their immediate reaction is to be *'grateful'* for what they have.

4.3.4 'Degendering' for success

Interviews indicate that women who are assertive or learn through the course of their careers to be this way, stand a chance at successfully navigating organizational spaces of power. In O's words *"The women [in managerial positions] have got there by emulating men. They're really aggressive. There's always the challenge of being a woman and moreover someone from a non-engineering background [in a tech company]. How to navigate your way around the hierarchy and company politics is always a struggle".*

It is significant to note that several respondents attribute their success in these interactions to personality, rather than their gender. Various strategies are used by women to assert themselves

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[13] The author complied with the respondent M's preference for the term 'disabled'.

at the workplace. Q spoke of *"picking her battles"* and W of bringing others around *"unknowingly"* to her own point of view and still others take a more straightforward approach. T states *"I have kind of always benefited from having a personality that isn't perceived to be what is conventionally considered effeminate…"*. This is part of the reason she believes she hasn't had the bad experiences other women have been through. In her own words, she has *"gotten away with it"*. Similarly Q sees herself as straightforward… "*in terms of sharing my opinions or point of view I don't hold back*".

The fact that the respondents believe that they are successful because they are assertive and straightforward, reveals that they are aware that stereotypically masculine traits are valued by the organization. This is demonstrated by T's take, *"I've always had the advantage of being fairly articulate and I have a pretty loud voice. So all of these things are masculine qualities that are beneficial in the workplace"*.

4.3.5 Schooling women in leadership

A flag bearer of empowerment in most DEI policies are the "women in leadership" workshops. These policies are framed in such a way that they assume women don't have 'innate' leadership skills and that these need to be workshopped and ingrained. I submit that the lack of women in upper management has less to do with their leadership abilities and more with the larger unequal social structures women operate in where the apex of the pyramid remains a masculine space. Respondent O shares, *"In a patriarchal organization, it's a boy's network…it is very difficult for women to grow vertically. The expectations of what a leader would be like are not what you are like"*.

How women see their reasons for success in tech companies make clear the pervasive cultures of masculinity in the industry. The valorisation of stereotypically masculine traits, prevents women from seeing themselves as manager material. The ingrained masculinity of tech careers can be seen from the fact that women are forced to "exchange major aspects of their gender identity for a masculine version". Strict gender socialization makes women very aware of their non-conformity and society's behavior expectations for them. In other words, the 'degendering' process required for women to be successful in the industry is not always apparent but what is clear is that the industry does not ask for a similar 'degendering' process from men (Wajcman 2010, p. 146).

4.4 Workplace Interactions

Each of the respondents experienced some kind of discrimination at the workplace on account of their gender. They felt *"talked over"* or had their opinions dismissed or undervalued, especially at high level meetings with fewer women in the room. The respondents spoke of having to work hard for their points of view to be taken into consideration. In M's experience, *"men will listen to a woman only if she is backed up by a man".* Even when they did their job effectively and skillfully, they were generally perceived as *"less productive and less talented"* and their contributions were rarely noticed. They had to *"prove themselves"* and *"not take shit"* to eventually earn the respect of senior males. The respondents touch upon age (youth and perceived inexperience) as a reason why they are not taken seriously. The women spoke about working alongside male PMs and developers, especially those senior to them, under the constant assumption that they *"don't know anything"*.

4.4.1 The Prove-It-Again Bias

Not only did respondent T have to ask for her place in leadership she also had to work doubly hard to prove that she deserved it. The standards are different for women and men. She relates an experience where she got a bit emotional and agitated at a meeting and was asked to leave. She has been in meetings where men *"would say extremely stupid things, like really ridiculous things for like a leader to say"…"even if they get called out for it, they rarely get asked to leave"*. However, she also noticed that men tend to be reprimanded publicly in front of their co-workers, while for women it is done in private. The handling of both situations above, while they may seem inconsistent at first glance, demonstrate the expectation of an emotional reaction from women.

The Prove-It-Again bias is observed when certain groups need to "provide more evidence of their competence to gain the same recognition as their colleagues". This a bias women and persons from other marginalized groups must often face. "Prove-It-Again bias is evident when people feel that their mistakes are noticed more and remembered longer, when their ideas are ignored, and when their successes are attributed to luck rather than skill" (Rincon et al., 2019, p.4).

W, a UX designer was asked by two male colleagues why *she* was invited to speak on a design podcast. Also, when she found herself on a prestigious list of designers, many of whom she looked

up to, she was asked how *she* had made it to the list, implying that she did not in fact belong there and must have used some influence. Had she been male, she believes such questions would not have come her way.

4.5 Do Women Design Differently?[14]

To respondent T, design is about building empathy for the people one designs for *"and the more empathy you have, the more you're able to design something that you actually need and want, right? Most women are good at building empathy"* In her opinion, men are not very good at building empathy. They tend to have a vision of what they want to do. She does not mean this as a critique of men. *"...it's just maybe the wide range of experiences that you have, as a woman, you can kind of understand things a little better".* The range of lived experiences that women have by virtue of their gender and its intersections is what she says is important. She currently works alongside two men and finds that it is important for her to bring in her point of view at work.

When asked if women designers design differently, respondent N would prefer not to make such a generalization. However, when asked if she's been in any situations where female designers have a unique take on a design problem, she recalled an interesting story in which gender seems to have impacted the design of a product. A woman on the team came up with an idea to aid in the safety and security of women traveling alone on long distance trips. This idea was found to be very useful and incorporated in the design of the final product. N ends relating this incident with *"Maybe if they had an all male team that [idea] wouldn't have come?".* She also saw the place of geographical location in influencing how designers think. Respondent W doesn't believe that gender plays an explicit role in design. However, with her team moving into projects on maternal health and family, she wonders how an all male team would handle it. Respondent O relates how in pandemic times, her team was forced to consider people who were working from home and their responsibilities that involved children and house chores. They were encouraged to take these daily exigencies into consideration in the design of their service.

Wajcman (2010) believes that the inclusion of women in the process of design is not only about equal opportunities for women but about how the world around us is "shaped" and "for whom".

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[14] Interestingly, when posed the above question most respondents disagreed. However, the discussions that followed yielded interesting insights, a selection of which have been captured.

Technology having a central place in our culture, means we must pay close attention to the politics of technology in order to renegotiate gender power relations.

4.6 Failures of DEI Policy

Most companies that the respondents presently work for have DEI policies in place. Policies are generally available internally, for the employees perusal, in written form. Only a few companies publish the policies on their websites for the public to access. Some companies also publish easy-to-read versions of the policy in the form of blog posts. Even three years ago, very few Indian companies and startups had DEI policies. International companies with global policies announced their DEI policies much earlier, some as early as 2014.

4.6.1 Women-focused Hiring Practices

T laments the narrow focus of the DEI policies in the start up she worked for. Their idea of diversity was limited to hiring women. The company introduced bonuses and incentivised the referrals of women to fill job-openings. *"When they're trying to hire people, they only mention that they want to hire women…I've never even seen mention of other underrepresented groups or class or caste. Is this any kind of, you know, intention to be inclusive?"*. She goes on to discuss the referral policies in more detail. Incentives for the referral of a woman successfully hired, are sometimes twice the amount than that for a male employee. These incentives are seen especially in the case of a role in business or tech that generally has more male employees. Mere gender representation is not DEI. Furthermore, taking women to be a homogenous category without considering the intersections of caste, class, social background, disability and sexual orientation is what she calls a 'cop-out'. T says that while she is a minority in terms of gender, she does not belong to a lower caste or class and in that sense her perspective is limited.

4.6.2 Policy Intent and Motivation

M's company has a DEI policy that is known to its employees. The company takes it seriously - involving employees as well as external resource persons in conversation. M sits on a disability committee in her workplace and provides inputs. They have also taken very concrete steps to hire personas from stigmatized and underrepresented groups. M however, questions the intent behind the policy. It is difficult to tell whether a company is taking interest in developing their diversity and inclusion policy because it is what is expected of them i.e. virtue signaling, if it is driven by the

profit motive - DEI's promise of an improved financial bottomline, or by a genuine drive to be inclusive. Whether voluntary or not, she sees it as a good thing, since her prior employers didn't even have a diversity and inclusion policy. In N's company, the policy exists but implementation is severely lacking. Here is where the intention behind the policy truly matters. N also feels that upper management is an *"old boys club"* where women are not invited. This makes DEI as a formality[15], since the organization chart is all male and contrasts with everything that is said in DEI training.

T has her take, *"I don't know if the people designing these programmes understand to the fullest extent what diversity and inclusion actually mean, to be able to then create these policies…just speaking from the companies that I've worked at, I don't think there is a there is a very deep understanding of what it means to then be able to create that…"* Her interview reveals the many ways in which she believes company policies fall short of the meaningful understanding and engagement required to formulate DEI policies that work.

Sara Ahmed (2012) analyzes diversity commitments in higher education institutions. She shows how institutional literature is often used strategically, in and by organizations, to create a favorable image of the organization, without much substance in the rhetoric. When diversity documentation takes precedence over diversity work**,** DEI becomes a public-facing exercise that is expected of companies, rather than a practice resulting in organizational transformation. This "institutional performance" where documents are 'done' over action is often mistakenly taken for performance and progress. A prominent example of this is Github, "home of the largest developer community in the world". It has, arguably, one of the most well-thought through and insightful DEI policies. Its aim for diversity and inclusion spans over 4 pillars- Platform, Philanthropy, People and Policy (Github, 2021). In July 2021 when the open-source app Sulli Deals was hosted on Github, the inclusive intent of these policies were conspicuous by their absence. 80 Muslim women's stolen and/or doctored photographs were put up for sale on the platform. This injustice reoccured in 2022 when the Bulli Bai app, again hosted on Github, auctioned off the photos of 100

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[15] *"There was a policy, and it was made known. I don't know how much it was actually taken seriously, though"*

Muslim women as "deals of the day" (Salim, 2022). Github's DEI says "We use our platform to advance issues that protect and promote inclusive opportunities through law, regulation, and social action". (Github, 2021) Sulli Deals and Bulli Bai are evidence that they must try harder.

4.6.3 The Compartmentalisation of Identities

The author observed that companies in India generally focused their policies on women, people with disabilities, and the LGBTQ+ community. To have a well researched DEI policy that compartmentalizes identity categories is, however, counterproductive. Only in intersection with one another can gender, sexuality or disability, for example, reflect an individuals' experiences in the world. The lack of an intersectional approach is starkly visible in how some DEI policies are framed; even those that have been thoughtfully and painstakingly formulated with the best intentions. When policy documents address specific categories of persons, for example women, LGBTQ+ and people with disabilities, in separate sections, they do not give these identities the opportunity to converse with each other. This framework allows people at the intersections of these identities to slip through the cracks. For example, a differently abled woman or a trans person.

4.6.4 The Challenge of Localization

Multinational companies having operations in India generally have an established DEI policy. This makes sense, given that this discourse in tech companies was first introduced in the West. DEI policies are generally framed by a legal team and/or a Diversity Officer based at company headquarters. Most policies formulated in the West look good on paper but do not reflect the requirements of a vast country like India with a very different social environment. Policies that include race and not caste for example, appear tone deaf in the Indian context. While DEI policies and initiatives are introduced with good intentions, blanket global policies have their limitations. They must be tailor-made for the conditions present in different countries.

There is hope, however. O has had over 2 decades of work experience in the tech industry in various roles, since the late 90s. The company she currently works for has a robust and evolving DEI policy. O described the work culture at her company as 'toxic' and 'testosterone driven' before a change in CEO and a consequent change in priorities. At present, it has a DEI policy that is implemented at its offices the world over. The awareness and practice of diversity and inclusion is built into its processes and the policy is revised during the year. While scope of responsibilities differ, both managers and employees work in concert towards the same goals.

5. INTERSECTING AXES: CLASS, CASTE, SEXUALITY AND DISABILITY

5.1 Class

Design in both indigenous and multinational tech companies appears to be an upper-middle/ middle class profession. The term middle class in India is itself contentious. The National Council of Applied Economic Research has identified the middle class as those households having an income between Rs 2 lakhs (approximately 2,645 USD) to Rs 10 lakhs (approximately 13,225 USD) per annum (Kapoor, 2022).

Interviews conducted indicated two routes to a career in design in tech - a) engineering or other professional courses and b) through a design education. All the respondents interviewed were from middle class backgrounds[16]. Several arrived at the career option through engineering or other "professional" routes. They were educated in private colleges and/or India's elite public science and technology institutions. For some, interest in design developed once already employed in a tech company, in a technical role. They eventually transitioned into design within the organization and found that it suited them. In such cases, the skill requirements that came with design were self-taught i.e. taking online courses to learn design skills, or were picked up - learning on the job from colleagues or mentors. In both cases they entered design out of choice. Design is a very lucrative option when compared to traditional careers like engineering and architecture etc. Still others arrive at this career through a degree in design. These individuals

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[16] To ascertain class background, respondents were asked questions about their upbringing, their childhood and education. They were also asked a direct question regarding class background.

usually get hired for design jobs straight out of design school. Elite public design schools or design programmes at private universities are where such an education can be obtained.

Interviews also revealed the elite culture of design studios. Design practitioners, especially those from elite design institutions, find it easier and more convenient to employ classmates and juniors from their own design programmes; who by virtue of learning in the same environment share a design language and aesthetic. Class backgrounds and lifestyles are similar. This practice acts as a filter, absorbing only those designers who are a 'cultural fit' for the organization. Respondents observed that while the organizations they worked for had employees from various linguistic backgrounds and geographical locations, they all largely belonged to the urban middle class. Design has proven to be a well-paying career that ensures that middle and upper middle class individuals that join the field have further opportunities for social mobility. The practice of design in tech firms in the Indian context therefore requires buying into and embracing an upper-middle class aesthetic. Designers from lower-middle or lower class backgrounds are required to absorb this as they are socialized into design teams or learn from mentors in the industry, in order to be successful.

T, one of the respondents, acknowledges her privilege in the field and her choice to work at startups rather than MNCs - *"I've always kind of had the good fortune and the privilege of trying it out, experimenting. And in the worst case, I don't like it, and I figure something out from there".* Many of her classmates (in the elite public design school programme she attended) from disadvantaged backgrounds did not have this luxury, she says. *"I think that even if you decide to do design, most people from like, lower caste and lower class, have to find jobs in MNCs. Because obviously, stability is one thing, but there is a more structured kind of sense of progress and sense of growth, in terms of salary, and also in sense of perks and sense of role... Startups are kind of chaotic…".* She attributes her meteoric rise and success in a big Indian startup to her ability to articulate her thoughts well and "ask for things" she needed, both of which can be understood sociologically as social and cultural capital.

Sociologist Pierre Bourdieu understands economic capital to include purely individual material assets (including property) which can easily and directly be converted into money. His concept of Social Capital includes social connections or networks i.e the resources one has access to by virtue of being a part of a certain social network. Cultural Capital, to him, comprises non-financial

social assets that allow for social mobility. It is a collection of symbolic elements like skills, tastes, posture, clothing, mannerisms, material belongings and degrees or credentials that one acquires by virtue of being part of a social class[17]. It is "familiarity with the legitimate culture within society". Cultural and Social Capital is thus a major source of social inequality (Bourdieu, 1986).

5.2 Caste

The silence around caste spoke louder than words. Most respondents were from upper caste backgrounds and unlike with class, found it difficult to identify the caste background of their workmates. Caste was frequently glossed over in favor of addressing class when asked about in the interviews. Caste, in their experience, was rarely addressed or discussed directly at the workplace. Feminist sociologist Sharmila Rege (1998) pushes for centring the discourse on caste and gender to develop a dalit feminist standpoint. This is possible only by conducting qualitative research like interviews with more women designers from lower caste backgrounds.

5.3 Sexuality

Q's organization values and encourages diversity, including diversity in sexual orientation. The company has fostered a work culture that allows people of all sexual orientations to feel comfortable and included in the workplace. While this approach has worked in the West, in India, people are unable to come out at work since in many cases their families are unaware of their sexual orientation. There exists a mismatch between organizational culture and the social culture that prevents employees from being able to be themselves and creates hurdles in the working of DEI policies. LGBTQ policies at workplaces generally require people to come out in order to avail to them.

As a person who is part of the LGBTQ+ community, T's identity doesn't affect her everyday work interactions but makes a difference in the 'softer aspects' of the job. Where talking about one's

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[17] Getting a degree from the same elite university creates a sense of collective identity and shared group position. Cultural capital can be understood in three forms - embodied i.e. that are part of an individual (one's accent, westernized attitudes and socialization, aesthetic sense), objectified i.e. made visible through material objects (a MacBook Pro, books on design, an apartment in Bangalore city) and institutionalized i.e. given recognition or acceptance by institutions (educational degrees and qualifications that symbolize competence and authority).

significant others at work is commonplace, this is not the case for her. She casually evades the topic. It has become her default state to *"assume everyone is homophobic unless proven otherwise"*. While she trusts her co-workers as work mates, she is more cautious with her personal life. T says discussing her personal life at work would not be a problem were she heterosexual.

The company M works for boasts a well conceptualised DEI policy written in consultation with a prominent queer activist. However she laments the way LGBTQ+ issues were treated in the workplace outside of seminars and workshops. "*I have actually heard people on my team very openly dismissing like the transgender community. I overheard a discussion where few people were discussing transpersons in a degrading and mocking manner".* This group included her own manager. Incidents like this demonstrate a stark contrast between policy and reality. While the organization states "openness" is its core value, it cannot be forced.

5.4 Disability

M, a UX designer, has a hearing and speech disability. The people she works with initially thought she was trying to put on an accent. They eventually realized her speech sounded different as a result of her disability. She has noticed "*an immediate shift in their eyes*" at this juncture. She is often interrupted by her colleagues while attempting to share her thoughts at meetings. As a disabled woman, making a move to argue with a male, especially a senior male is a slight to their ego. Her observations demonstrate the unique experiences at the intersection of gender, age and disability.

 "*When I propose an idea, it is not given the time or space that a male is given to articulate that thought clearly…You get interrupted and then you have to defend, and it makes you just look less professional than somebody who is allowed to speak for hours and hours*"

"*This is very hard to point out but I was able to [do so] very recently with my manager because there was a meeting in which I had to present my idea and two males had to present their ideas. All of us are designers. We had to present our ideas to senior design leadership. Now while my manager is not the kind of person to interrupt, the other two senior designers interrupted women a lot. In that meeting, they interrupted me several times and the males making presentations were not interrupted even once*"

Given the contribution she has made to the company she believes that had she not been a disabled woman, she would have already been promoted multiple times. Her gender and disability have played a role in these decisions. Her life as a deaf woman in a hearing world makes work more stressful. On several occasions when she has missed a point or keyword at a meeting on account of her disability and when she requested someone to repeat it, the point was dismissed as being unimportant. This makes her feel uninvolved and like an outsider. M does not use sign language. The trouble she takes to lip-read and best adapt to "normal" work situations goes unvalued when she is dismissed in such a way.

6. CONCLUSION: RECOMMENDATIONS

This research urges us to reflect on DEI policies and its practice in India. While gender parity in the tech industry is important, it is necessary to keep in mind other intersectional identities like caste, class, sexuality and disability. Intersecting identities are also important in the framing of DEI policies. To import policy without contextualizing it to our local circumstances is both an ugly mistake and a missed opportunity. Adapting blanket global DEI policies to suit local contexts, therefore, remains a goal to work towards. Hiring decisions must be made in such a way that employers not only take gender but also its intersections with caste, class, gender, age, disability and sexuality into account, for it is at the intersection of identities that true diversity lives. Lived experiences are a great starting point to build policy. Women and other marginalized identities must have a hand in drafting, modifying and implementing DEI policy in organizations. This step is imperative to maintain the original intent and motivation of the policy. This step is imperative to maintain the original intent and motivation of the policy. The state must play an active role in ensuring compliance of companies operating within its territory, not only in the formulation but also the implementation of DEI policy.

As a country that is a significant contributor to tech work globally, we must take the initiative to change the established narrative when it comes to the place of women in managerial positions, acknowledging that if diverse teams are to create better products, strengthening decision-making capacity in the traditionally disenfranchised is paramount. Nurturing and promoting talent within

the company, rather than lamenting the lack of female managerial talent (as has been documented in interviews), is one possible solution. The gendering of organized roles, the perception of their value, and the degendering requirement for women to progress, point to the valorisation of masculine traits in the tech industry. Considering behavioral attributes like outspokenness, detachment and confidence, as masculine and more importantly, desired, is complemented by the value placed on 'rational' and 'objective' ways of knowing, determined by cultural notions of what constitutes valid knowledge. However, to do differently requires an epistemological shift - a change in what is considered valid knowledge.

Rather than paying lip service to DEI, we must see the value in diverse lived experiences. This, together with the dismantling of oppressive structural conditions will unearth the true potential of DEI to impact design.

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